Section 2. Energy Consumption by Sector

U.S. total energy consumption in December 2002 was 8.7 quadrillion Btu, 5 percent higher than in December 2001.

Residential sector total consumption was 2.1 quadrillion Btu in December 2002, 13 percent higher than the December 2001 level. The sector accounted for 24 percent of total energy consumption.

Commercial sector total consumption was 1.5 quadrillion Btu in December 2002, 4 percent higher than the December 2001 level. The sector accounted for 17 percent of total energy consumption.

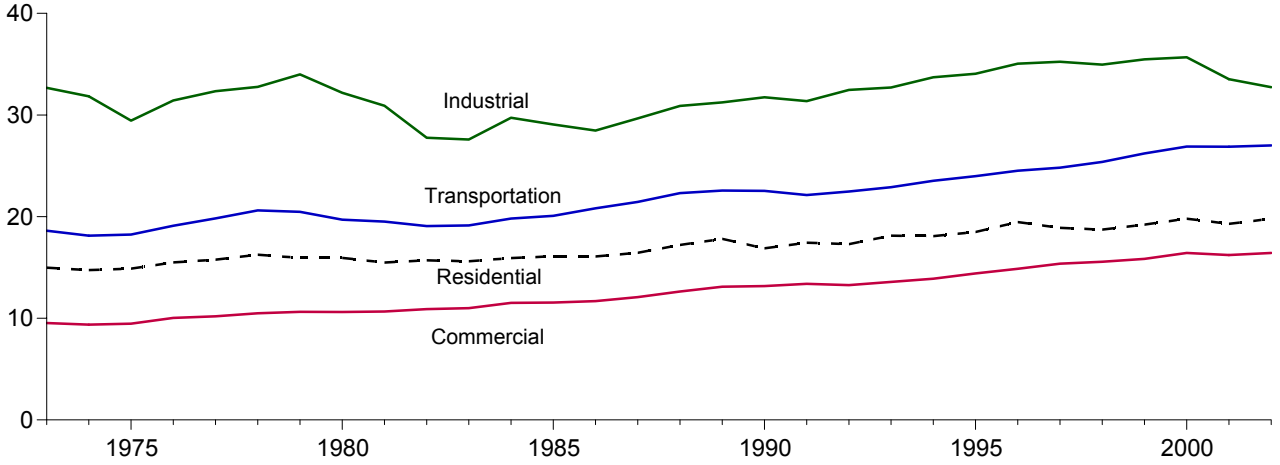
Industrial sector total consumption was 2.8 quadrillion Btu in December 2002, slightly lower than the December 2001 level. The sector accounted for 32 percent of total energy consumption.

Transportation sector total consumption was 2.3 quadrillion Btu in December 2002, 6 percent higher than the December 2001 level. The sector accounted for 26 percent of total energy consumption.

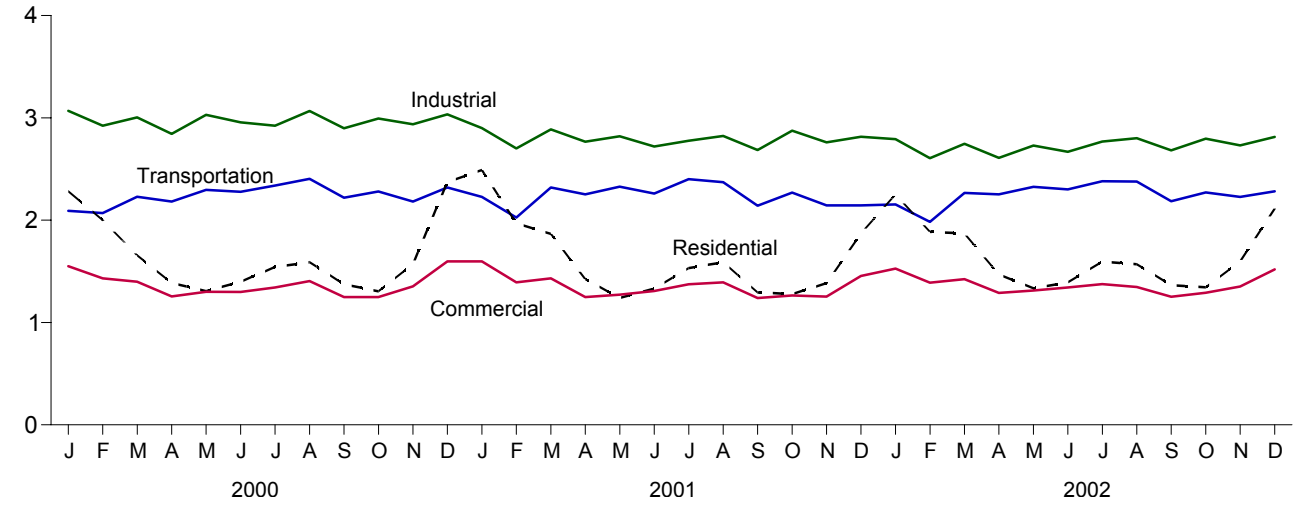
Electric power sector primary consumption was 3.1 quadrillion Btu in December 2002, 8 percent higher than the December 2001 level. Fossil fuels accounted for 68 percent of all primary energy consumed by the electric power sector; nuclear electric power 21 percent; and renewable energy 11 percent.

Figure 2.1 Energy Consumption by Sector
(Quadrillion Btu)

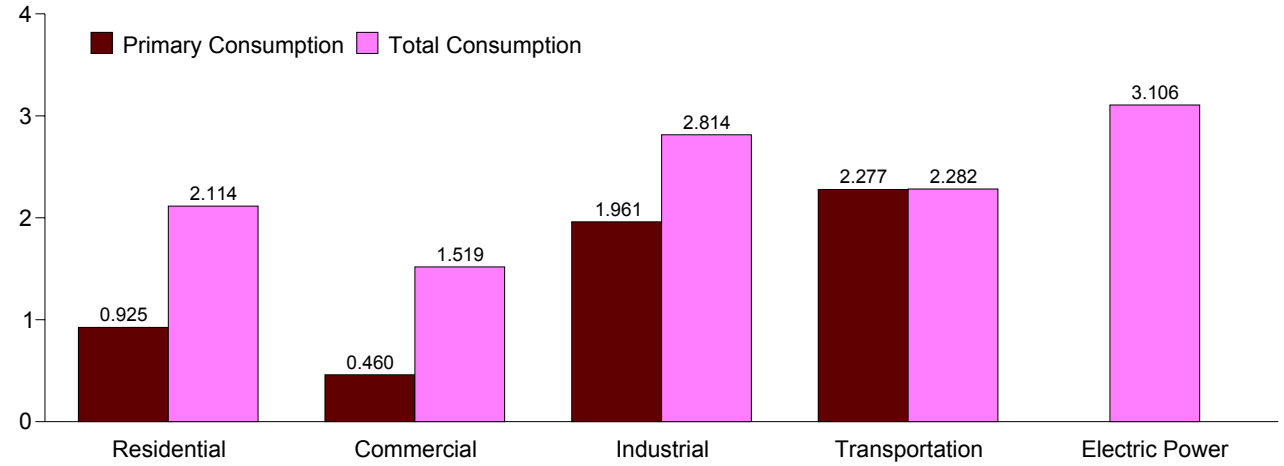
Total Consumption End Use, 1973-2002



Total Consumption End Use, Monthly



By Sector, December 2002



Note: Because vertical scales differ, graphs should not be compared.
Web Page: http://www.eia.doe.gov/emeu/mer/consump.html.
Source: Table 2.1.

Table 2.1 Energy Consumption by Sector

(Quadrillion Btu)

	End-Use Sectors[a]								Electric Power Sector[a]	
	Residential		Commercial		Industrial		Transportation			
	Primary	Total	Primary	Total	Primary	Total	Primary	Total	Primary	Total[b]
1973 Total	**8.258**	**14.983**	**4.373**	**9.534**	**24.706**	**32.672**	**18.576**	**18.612**	**19.887**	**75.808**
1974 Total	**7.948**	**14.745**	**4.201**	**9.374**	**23.783**	**31.835**	**18.086**	**18.119**	**20.055**	**74.080**
1975 Total	**8.027**	**14.888**	**4.002**	**9.465**	**21.422**	**29.445**	**18.209**	**18.244**	**20.382**	**72.042**
1976 Total	**8.431**	**15.493**	**4.310**	**10.038**	**22.652**	**31.434**	**19.065**	**19.099**	**21.607**	**76.072**
1977 Total	**8.232**	**15.765**	**4.193**	**10.194**	**23.160**	**32.336**	**19.784**	**19.820**	**22.746**	**78.122**
1978 Total	**8.309**	**16.249**	**4.233**	**10.489**	**23.245**	**32.770**	**20.580**	**20.615**	**23.755**	**80.123**
1979 Total	**7.971**	**15.937**	**4.296**	**10.635**	**24.177**	**33.999**	**20.436**	**20.471**	**24.162**	**81.044**
1980 Total	**7.533**	**15.938**	**4.068**	**10.613**	**22.640**	**32.189**	**19.658**	**19.696**	**24.538**	**78.435**
1981 Total	**7.142**	**15.482**	**3.791**	**10.672**	**21.371**	**30.906**	**19.469**	**19.506**	**24.793**	**76.569**
1982 Total	**7.206**	**15.704**	**3.816**	**10.906**	**19.079**	**27.756**	**19.032**	**19.070**	**24.303**	**73.440**
1983 Total	**6.879**	**15.603**	**3.783**	**10.989**	**18.565**	**27.580**	**19.098**	**19.141**	**24.989**	**73.317**
1984 Total	**7.036**	**15.927**	**3.945**	**11.510**	**20.175**	**29.724**	**19.761**	**19.809**	**26.053**	**76.972**
1985 Total	**7.024**	**16.095**	**3.676**	**11.550**	**19.507**	**29.067**	**20.023**	**20.071**	**26.552**	**76.778**
1986 Total	**6.842**	**16.087**	**3.617**	**11.684**	**19.100**	**28.474**	**20.768**	**20.818**	**26.735**	**77.065**
1987 Total	**6.874**	**16.437**	**3.710**	**12.078**	**20.013**	**29.664**	**21.405**	**21.456**	**27.633**	**79.633**
1988 Total	**7.280**	**17.213**	**3.918**	**12.640**	**20.926**	**30.899**	**22.261**	**22.313**	**28.681**	**83.068**
1989 Total	**7.522**	**17.805**	**3.892**	**13.099**	**20.727**	**31.238**	**22.517**	**22.571**	**30.055**	**84.716**
1990 Total	**6.494**	**16.884**	**3.742**	**13.168**	**21.111**	**31.743**	**22.488**	**22.541**	**30.502**	**84.344**
1991 Total	**6.723**	**17.427**	**3.800**	**13.382**	**20.754**	**31.359**	**22.077**	**22.130**	**30.943**	**84.298**
1992 Total	**6.916**	**17.300**	**3.834**	**13.264**	**21.679**	**32.472**	**22.419**	**22.471**	**30.660**	**85.513**
1993 Total	**7.156**	**18.124**	**3.828**	**13.583**	**21.928**	**32.702**	**22.844**	**22.896**	**31.550**	**87.300**
1994 Total	**6.991**	**18.074**	**3.865**	**13.899**	**22.640**	**33.717**	**23.467**	**23.522**	**32.249**	**89.213**
1995 Total	**7.063**	**18.492**	**3.958**	**14.406**	**22.962**	**34.063**	**23.921**	**23.975**	**33.033**	**90.943**
1996 Total	**7.598**	**19.471**	**4.127**	**14.876**	**23.716**	**35.053**	**24.469**	**24.523**	**34.013**	**93.931**
1997 Total	**7.136**	**18.899**	**4.150**	**15.375**	**23.890**	**35.241**	**24.770**	**24.823**	**34.393**	**94.340**
1998 Total	**6.497**	**18.732**	**3.883**	**15.553**	**23.570**	**34.951**	**25.336**	**25.390**	**35.340**	**94.623**
1999 Total	**6.847**	**19.210**	**3.929**	**15.849**	**24.053**	**35.481**	**26.164**	**26.219**	**35.766**	**96.767**
2000 January	1.104	2.282	.561	1.550	2.143	3.069	2.087	2.091	3.098	8.991
February	.989	2.000	.520	1.431	2.054	2.923	2.064	2.069	2.795	8.419
March	.743	1.656	.438	1.399	2.052	3.005	2.224	2.229	2.832	8.285
April	.567	1.386	.330	1.255	1.915	2.844	2.178	2.182	2.677	7.662
May	.383	1.307	.249	1.301	2.025	3.029	2.292	2.297	2.986	7.932
June	.300	1.398	.209	1.298	1.982	2.956	2.272	2.277	3.165	7.929
July	.273	1.543	.199	1.343	1.969	2.924	2.334	2.339	3.374	8.151
August	.286	1.590	.224	1.405	2.074	3.067	2.399	2.404	3.484	8.470
September	.298	1.374	.217	1.249	2.000	2.898	2.214	2.219	3.011	7.740
October	.410	1.305	.257	1.248	2.073	2.994	2.276	2.281	2.812	7.827
November	.667	1.570	.376	1.353	2.001	2.937	2.178	2.182	2.819	8.039
December	1.163	2.373	.591	1.598	2.133	3.034	2.315	2.319	3.123	9.322
Total	**7.183**	**19.791**	**4.172**	**16.430**	**24.420**	**35.673**	**26.840**	**26.897**	**36.176**	**98.775**
2001 January	R 1.226	2.491	R .612	1.598	R 2.084	R 2.900	R 2.223	R 2.228	3.072	R 9.216
February	.994	1.969	.521	1.392	R 1.910	R 2.701	R 2.022	R 2.026	2.641	R 8.084
March	.898	1.867	.471	R 1.432	R 2.028	R 2.888	R 2.315	R 2.319	2.794	R 8.501
April	.576	1.424	.332	1.249	R 1.924	R 2.767	R 2.248	R 2.252	2.612	R 7.688
May	.363	1.241	.232	1.272	R 1.901	R 2.820	2.322	2.327	2.841	R 7.658
June	.293	1.331	.196	1.308	R 1.823	R 2.720	2.255	2.261	3.053	R 7.621
July	.276	1.531	.193	R 1.374	R 1.902	R 2.776	R 2.395	R 2.401	3.315	R 8.086
August	R .289	1.589	.210	1.392	R 1.943	R 2.824	R 2.366	R 2.371	3.370	R 8.181
September	.281	R 1.294	.205	1.239	R 1.891	R 2.686	R 2.136	R 2.142	2.847	R 7.361
October	.414	1.278	.260	R 1.264	R 2.032	R 2.875	2.265	2.270	2.715	R 7.685
November	.552	1.385	.310	1.254	R 1.936	R 2.760	R 2.141	R 2.145	2.605	R 7.543
December	R .835	1.869	.444	R 1.455	R 1.980	R 2.816	R 2.140	R 2.145	2.886	R 8.286
Total	R **6.998**	R **19.284**	R **3.987**	R **16.222**	R **23.354**	R **33.524**	R **26.829**	R **26.887**	**34.750**	R **95.909**
2002 January	1.048	2.252	R .535	R 1.527	R 2.007	R 2.792	R 2.150	R 2.154	2.986	R 8.726
February	R .910	1.887	R .485	1.389	R 1.858	R 2.606	R 1.978	1.983	2.633	R 7.862
March	.867	R 1.869	R .464	1.424	R 1.959	R 2.746	2.261	2.266	2.753	R 8.302
April	R .585	1.469	.337	1.290	R 1.813	R 2.609	R 2.247	2.252	2.638	R 7.618
May	R .418	1.335	.259	1.312	R 1.872	R 2.729	2.322	R 2.326	2.831	R 7.702
June	.310	1.393	.212	1.342	R 1.819	R 2.668	2.296	2.301	3.067	R 7.707
July	.276	1.595	.196	R 1.375	R 1.919	R 2.769	2.375	2.380	3.353	R 8.125
August	R .280	R 1.569	.210	1.347	R 1.958	R 2.802	2.373	2.378	3.274	R 8.100
September	.275	1.365	R .208	1.251	R 1.875	R 2.682	2.181	R 2.185	2.944	R 7.485
October	.427	1.344	R .276	R 1.291	R 1.971	R 2.796	R 2.267	2.272	2.761	R 7.701
November	R .683	R 1.597	R .391	R 1.352	R 1.908	R 2.731	R 2.222	R 2.227	R 2.702	R 7.905
December	.925	2.114	.460	1.519	1.961	2.814	2.277	2.282	F 3.106	8.732
Total	**7.004**	**19.792**	**4.033**	**16.421**	R **22.921**	**32.739**	R **26.951**	**27.006**	E **35.049**	R **95.965**

[a] Most nonutility use of fossil fuels to produce electricity is included in the end-use sectors. See Note 2 at end of section.

[b] The sum of primary consumption in the five energy-use sectors equals the sum of total consumption in the four end-use sectors. However, total energy consumption does not exactly equal the sum of the sectoral components due to independent rounding and the use of sector-specific conversion factors for natural gas and coal.

R=Revised.

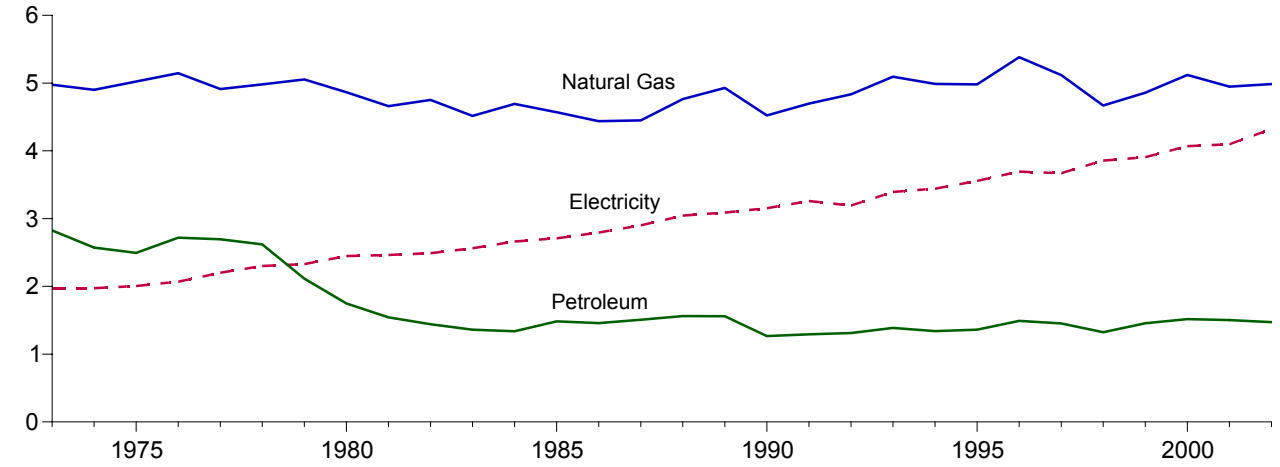
Notes: • Primary consumption includes coal, natural gas, petroleum, nuclear electric power, hydroelectric power, wood, waste, alcohol fuels, geothermal, solar, wind, net imports of coal coke, and net imports of electricity. • Total consumption includes primary consumption; electric utility retail sales of electricity, including nonutility sales of electricity to utilities for distribution to end users; and electrical system energy losses. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: http://www.eia.doe.gov/emeu/mer/consump.html.

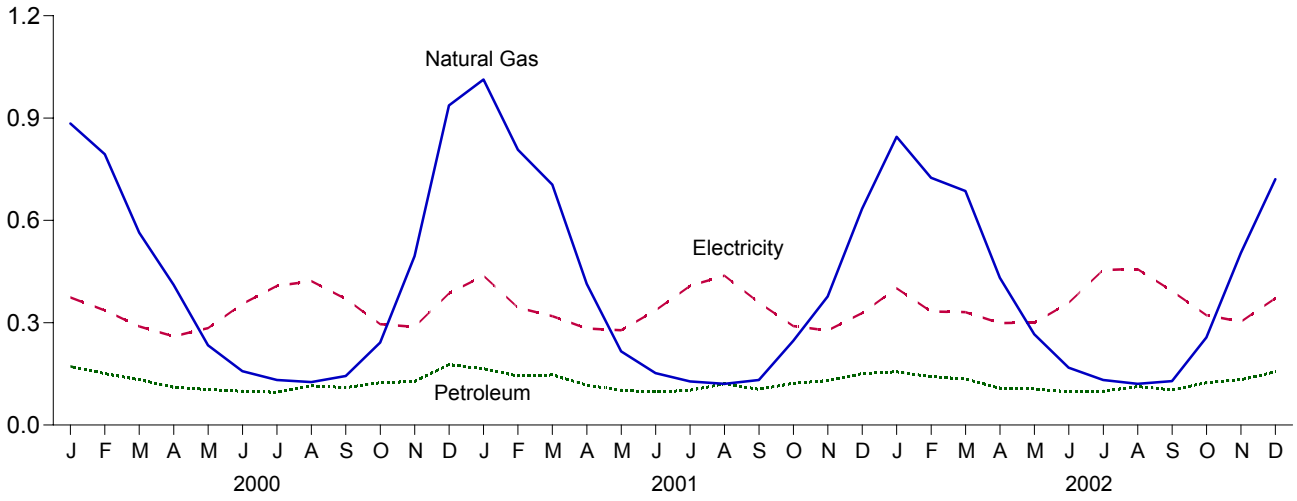
Additional Notes and Sources: See Tables 2.2-2.6 and end of section.

Figure 2.2 Residential Sector Energy Consumption
(Quadrillion Btu)

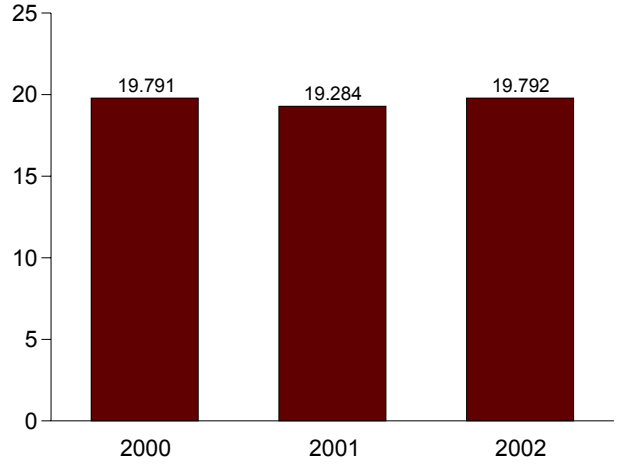
By Major Sources, 1973-2002



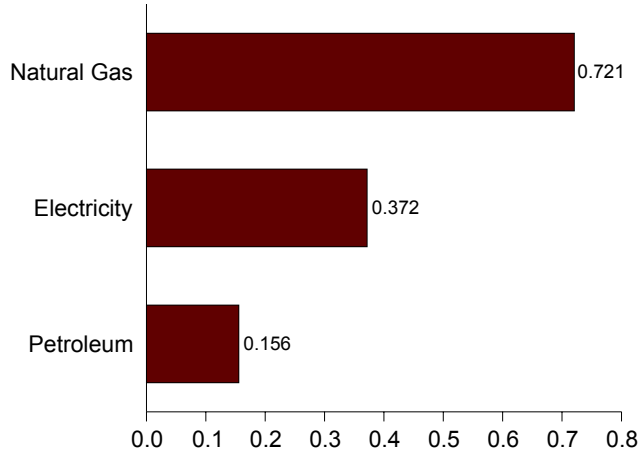
By Major Sources, Monthly



Total, January-December



By Major Sources, December 2002



Note: Because vertical scales differ, graphs should not be compared.
Web Page: http://www.eia.doe.gov/emeu/mer/consump.html.
Source: Table 2.2.

Table 2.2 Residential Sector Energy Consumption

(Quadrillion Btu)

	Primary Consumption											
	Fossil Fuels[a]				Renewable Energy							
	Coal	Natural Gas[b]	Petroleum	Total	Wood[c]	Geo-thermal[d]	Solar[e]	Total	Total Primary	Electricity[f]	Electrical System Energy Losses[g]	Total
1973 Total	**0.102**	**4.977**	**2.825**	**7.904**	**0.354**	**NA**	**NA**	**0.354**	**8.258**	**1.976**	**4.749**	**14.983**
1974 Total	**.103**	**4.901**	**2.573**	**7.577**	**.371**	**NA**	**NA**	**.371**	**7.948**	**1.973**	**4.824**	**14.745**
1975 Total	**.084**	**5.023**	**2.495**	**7.601**	**.425**	**NA**	**NA**	**.425**	**8.027**	**2.007**	**4.855**	**14.888**
1976 Total	**.081**	**5.147**	**2.720**	**7.949**	**.482**	**NA**	**NA**	**.482**	**8.431**	**2.069**	**4.994**	**15.493**
1977 Total	**.082**	**4.913**	**2.695**	**7.690**	**.542**	**NA**	**NA**	**.542**	**8.232**	**2.202**	**5.331**	**15.765**
1978 Total	**.085**	**4.981**	**2.620**	**7.687**	**.622**	**NA**	**NA**	**.622**	**8.309**	**2.301**	**5.639**	**16.249**
1979 Total	**.075**	**5.055**	**2.114**	**7.243**	**.728**	**NA**	**NA**	**.728**	**7.971**	**2.330**	**5.636**	**15.937**
1980 Total	**.060**	**4.866**	**1.748**	**6.674**	**.859**	**NA**	**NA**	**.859**	**7.533**	**2.448**	**5.958**	**15.938**
1981 Total	**.070**	**4.660**	**1.543**	**6.273**	**.869**	**NA**	**NA**	**.869**	**7.142**	**2.464**	**5.876**	**15.482**
1982 Total	**.075**	**4.753**	**1.441**	**6.269**	**.937**	**NA**	**NA**	**.937**	**7.206**	**2.489**	**6.008**	**15.704**
1983 Total	**.075**	**4.516**	**1.362**	**5.954**	**.925**	**NA**	**NA**	**.925**	**6.879**	**2.562**	**6.162**	**15.603**
1984 Total	**.083**	**4.692**	**1.337**	**6.113**	**.923**	**NA**	**NA**	**.923**	**7.036**	**2.662**	**6.229**	**15.927**
1985 Total	**.070**	**4.571**	**1.483**	**6.125**	**.899**	**NA**	**NA**	**.899**	**7.024**	**2.709**	**6.362**	**16.095**
1986 Total	**.070**	**4.439**	**1.457**	**5.966**	**.876**	**NA**	**NA**	**.876**	**6.842**	**2.795**	**6.450**	**16.087**
1987 Total	**.065**	**4.449**	**1.508**	**6.022**	**.852**	**NA**	**NA**	**.852**	**6.874**	**2.902**	**6.662**	**16.437**
1988 Total	**.067**	**4.765**	**1.563**	**6.395**	**.885**	**NA**	**NA**	**.885**	**7.280**	**3.046**	**6.887**	**17.213**
1989 Total	**.058**	**4.929**	**1.560**	**6.547**	**.918**	**.005**	**.053**	**.976**	**7.522**	**3.090**	**7.193**	**17.805**
1990 Total	**.062**	**4.523**	**1.266**	**5.852**	**.581**	**.006**	**.056**	**.642**	**6.494**	**3.153**	**7.238**	**16.884**
1991 Total	**.056**	**4.697**	**1.293**	**6.047**	**.613**	**.006**	**.058**	**.677**	**6.723**	**3.260**	**7.444**	**17.427**
1992 Total	**.057**	**4.835**	**1.312**	**6.205**	**.645**	**.006**	**.060**	**.711**	**6.916**	**3.193**	**7.191**	**17.300**
1993 Total	**.057**	**5.095**	**1.387**	**6.540**	**.548**	**.007**	**.062**	**.616**	**7.156**	**3.394**	**7.574**	**18.124**
1994 Total	**.056**	**4.988**	**1.340**	**6.384**	**.537**	**.006**	**.064**	**.607**	**6.991**	**3.441**	**7.642**	**18.074**
1995 Total	**.054**	**4.981**	**1.361**	**6.396**	**.596**	**.007**	**.065**	**.667**	**7.063**	**3.557**	**7.871**	**18.492**
1996 Total	**.055**	**5.383**	**1.492**	**6.930**	**.595**	**.007**	**.066**	**.668**	**7.598**	**3.694**	**8.179**	**19.471**
1997 Total	**.058**	**5.118**	**1.454**	**6.630**	**.433**	**.007**	**.065**	**.506**	**7.136**	**3.671**	**8.092**	**18.899**
1998 Total	**.044**	**4.669**	**1.324**	**6.037**	**.387**	**.008**	**.065**	**.459**	**6.497**	**3.856**	**8.379**	**18.732**
1999 Total	**.047**	**4.858**	**1.456**	**6.361**	**.414**	**.008**	**.064**	**.486**	**6.847**	**3.906**	**8.457**	**19.210**
2000 January	.005	.884	.172	1.061	A .037	A .001	A .005	A .043	1.104	.374	.805	2.282
February	.004	.794	.151	.949	A .034	A .001	A .005	A .040	.989	.336	.675	2.000
March	.003	.564	.133	.700	A .037	A .001	A .005	A .043	.743	.289	.625	1.656
April	.003	.411	.111	.525	A .036	A .001	A .005	A .041	.567	.260	.559	1.386
May	.002	.234	.104	.340	A .037	A .001	A .005	A .043	.383	.284	.640	1.307
June	.002	.158	.099	.259	A .036	A .001	A .005	A .041	.300	.355	.743	1.398
July	.003	.132	.096	.231	A .037	A .001	A .005	A .043	.273	.408	.862	1.543
August	.003	.126	.115	.244	A .037	A .001	A .005	A .043	.286	.422	.881	1.590
September	.002	.144	.110	.257	A .036	A .001	A .005	A .041	.298	.370	.706	1.374
October	.002	.242	.124	.368	A .037	A .001	A .005	A .043	.410	.296	.599	1.305
November	.004	.495	.128	.626	A .036	A .001	A .005	A .041	.667	.288	.614	1.570
December	.006	.937	.177	1.120	A .037	A .001	A .005	A .043	1.163	.386	.824	2.373
Total	**.039**	**5.121**	**1.518**	**6.679**	E **.433**	E **.009**	E **.062**	E **.503**	**7.183**	**4.069**	**8.540**	**19.791**
2001 January	.005	1.013	.165	1.183	A .037	A .001	A .005	A .043	R 1.226	.438	.828	2.491
February	.004	.807	.144	.955	A .033	A .001	A .005	A .039	.994	.344	.631	1.969
March	R .004	.705	.147	R .856	A .037	A .001	A .005	A .043	.898	.319	.650	1.867
April	R .004	.414	.117	R .535	A .036	A .001	A .005	A .041	.576	.283	.566	1.424
May	.002	.216	.102	.320	A .037	A .001	A .005	A .043	.363	.278	.600	1.241
June	R .003	.152	.097	.252	A .036	A .001	A .005	A .041	.293	.336	.702	1.331
July	.003	.128	.102	.234	A .037	A .001	A .005	A .043	.276	.408	.847	1.531
August	.003	.121	.121	.246	A .037	A .001	A .005	A .043	R .289	.438	.863	1.589
September	.002	.132	.105	.240	A .036	A .001	A .005	A .041	.281	.359	.653	R 1.294
October	.003	.247	.122	R .372	A .037	A .001	A .005	A .043	.414	.290	.573	1.278
November	R .004	.377	.130	R .511	A .036	A .001	A .005	A .041	.552	.277	.556	1.385
December	.006	.634	.151	.792	A .037	A .001	A .005	A .043	R .835	.328	.706	1.869
Total	R **.042**	**4.948**	**1.504**	R **6.494**	E **.433**	E **.009**	E **.062**	E **.503**	R **6.998**	**4.098**	**8.189**	R **19.284**
2002 January	R .005	.845	.156	1.005	A .037	A .001	A .005	A .043	1.048	.401	.803	2.252
February	.004	.725	.142	.871	A .033	A .001	A .005	A .039	R .910	.333	.645	1.887
March	.004	.686	.135	.825	A .037	A .001	A .005	A .043	.867	.331	.670	R 1.869
April	.003	.432	.108	.543	A .036	A .001	A .005	A .041	R .585	.299	.585	1.469
May	R .003	.266	.106	.375	A .037	A .001	A .005	A .043	R .418	.300	.618	1.335
June	.002	.168	.098	.269	A .036	A .001	A .005	A .041	.310	.358	.725	1.393
July	.003	.132	.099	.233	A .037	A .001	A .005	A .043	.276	.455	.864	1.595
August	.003	.121	.113	.237	A .037	A .001	A .005	A .043	R .280	.457	.832	R 1.569
September	.002	.129	.103	.234	A .036	A .001	A .005	A .041	.275	.393	.697	1.365
October	.003	.257	.124	.384	A .037	A .001	A .005	A .043	.427	.322	.595	1.344
November	.004	R .504	R .133	R .641	A .036	A .001	A .005	A .041	R .683	R .303	R .611	R 1.597
December	.006	F .721	.156	E .883	A .037	A .001	A .005	A .043	.925	.372	.817	2.114
Total	**.042**	E **4.986**	**1.473**	E **6.500**	E **.433**	E **.009**	E **.062**	E **.503**	**7.004**	**4.323**	**8.465**	**19.792**

[a] Most nonutility use of fossil fuels to produce electricity is included in the end-use sectors. See Note 2 at end of section.
[b] Includes supplemental gaseous fuels.
[c] Wood only.
[d] Geothermal heat pump and direct use energy.
[e] Solar thermal direct use and photovoltaic energy. Includes small amounts of commercial sector use.
[f] Electric utility retail sales of electricity, including nonutility sales of electricity to utilities for distribution to end users; does not include nonutility facility use of onsite electricity generation or electricity sold by nonutilities directly to end users.
[g] See Note 12 at end of section.

R=Revised. NA=Not available. E=Estimate. F=Forecast. A=Apportioned data: monthly estimates for 2000 and 2001 are created by dividing the annual value by the number of days in the year and then multiplying by the number of days in the month; temporary 2002 monthly estimates are created by dividing the 2001 annual value by 365 and multiplying by the number of days in the month.

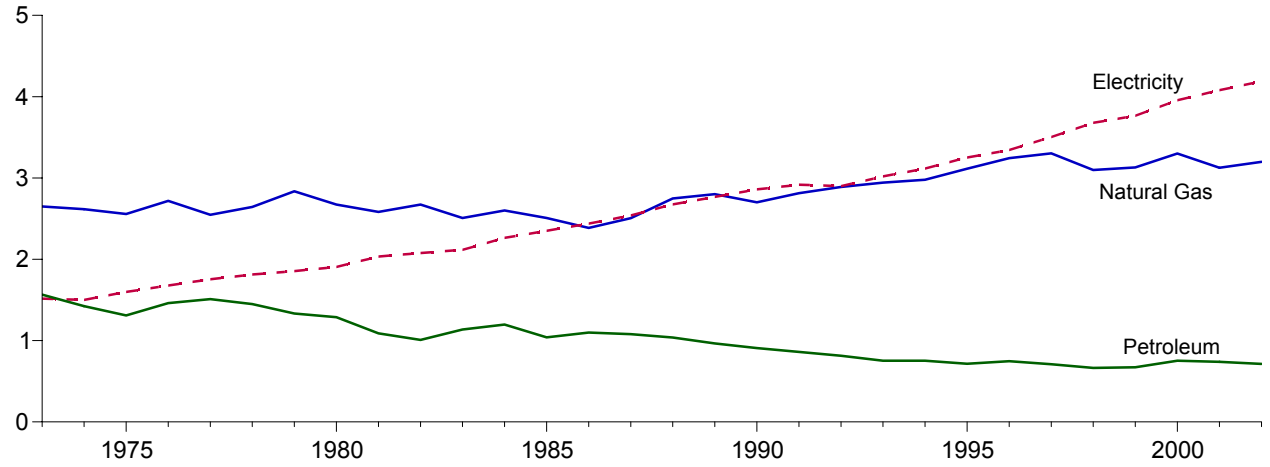
Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: http://www.eia.doe.gov/emeu/mer/consump.html.

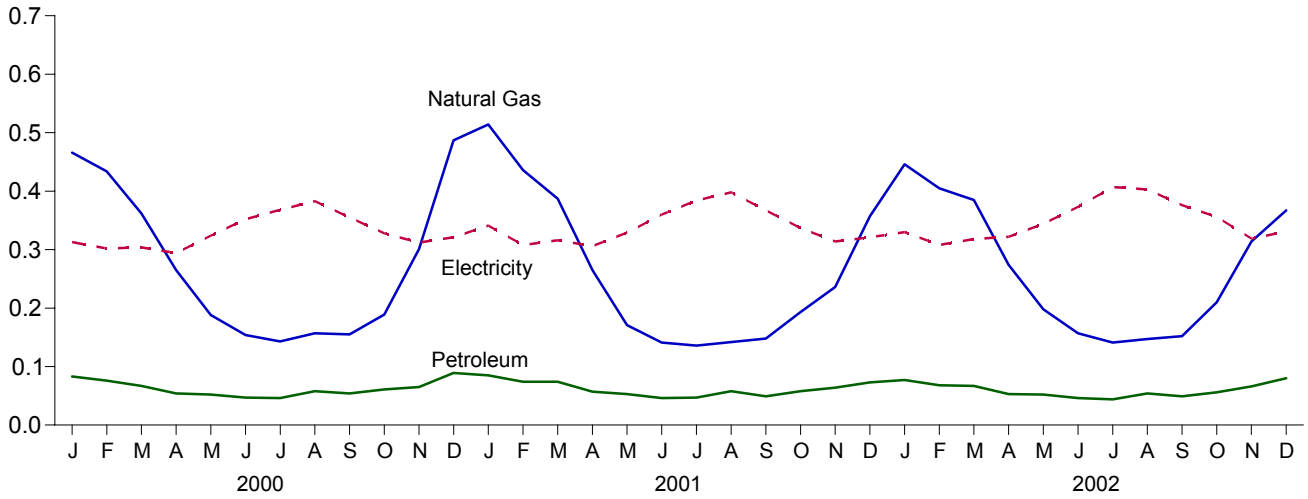
Additional Notes and Sources: See end of section.

Figure 2.3 Commercial Sector Energy Consumption
(Quadrillion Btu)

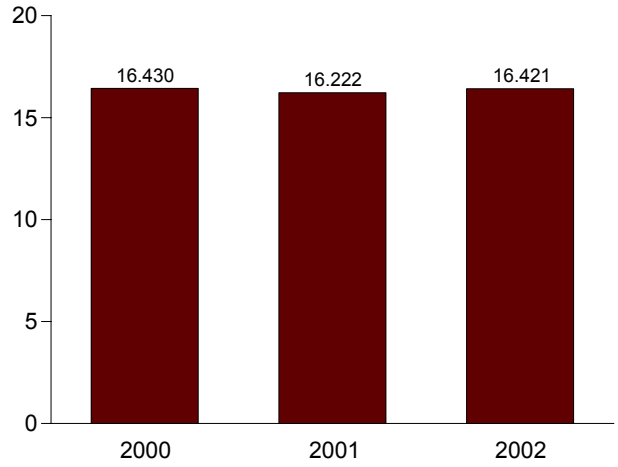
By Major Sources, 1973-2002



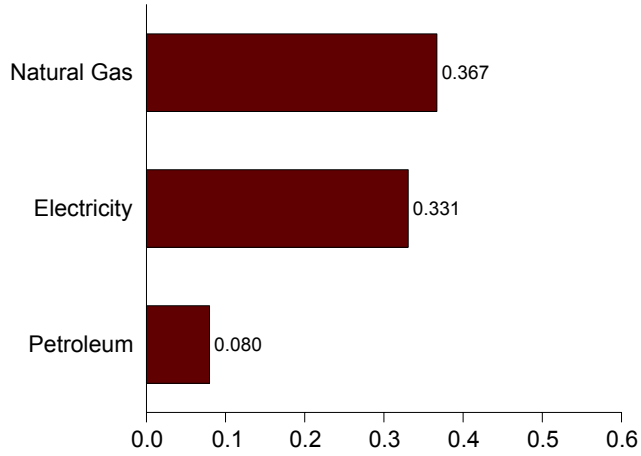
By Major Sources, Monthly



Total, January-December



By Major Sources, December 2002



Note: Because vertical scales differ, graphs should not be compared.
Web Page: http://www.eia.doe.gov/emeu/mer/consump.html.
Source: Table 2.3.

Table 2.3 Commercial Sector Energy Consumption

(Quadrillion Btu)

	Primary Consumption										
	Fossil Fuels[a]				Renewable Energy						
	Coal	Natural Gas[b]	Petroleum	Total	Wood[c]	Geo-thermal[d]	Total	Total Primary	Electricity[e]	Electrical System Energy Losses[f]	Total
1973 Total	**0.152**	**2.649**	**1.565**	**4.367**	**0.007**	**NA**	**0.007**	**4.373**	**1.517**	**3.644**	**9.534**
1974 Total	**.154**	**2.617**	**1.423**	**4.194**	**.007**	**NA**	**.007**	**4.201**	**1.501**	**3.672**	**9.374**
1975 Total	**.126**	**2.558**	**1.310**	**3.994**	**.008**	**NA**	**.008**	**4.002**	**1.598**	**3.865**	**9.465**
1976 Total	**.122**	**2.718**	**1.461**	**4.301**	**.009**	**NA**	**.009**	**4.310**	**1.678**	**4.049**	**10.038**
1977 Total	**.123**	**2.548**	**1.511**	**4.182**	**.010**	**NA**	**.010**	**4.193**	**1.754**	**4.247**	**10.194**
1978 Total	**.128**	**2.643**	**1.450**	**4.221**	**.012**	**NA**	**.012**	**4.233**	**1.813**	**4.443**	**10.489**
1979 Total	**.112**	**2.836**	**1.334**	**4.282**	**.014**	**NA**	**.014**	**4.296**	**1.854**	**4.485**	**10.635**
1980 Total	**.086**	**2.674**	**1.288**	**4.047**	**.021**	**NA**	**.021**	**4.068**	**1.906**	**4.639**	**10.613**
1981 Total	**.097**	**2.583**	**1.090**	**3.770**	**.021**	**NA**	**.021**	**3.791**	**2.033**	**4.848**	**10.672**
1982 Total	**.112**	**2.673**	**1.008**	**3.794**	**.022**	**NA**	**.022**	**3.816**	**2.077**	**5.014**	**10.906**
1983 Total	**.117**	**2.508**	**1.136**	**3.761**	**.022**	**NA**	**.022**	**3.783**	**2.116**	**5.090**	**10.989**
1984 Total	**.125**	**2.600**	**1.198**	**3.923**	**.022**	**NA**	**.022**	**3.945**	**2.264**	**5.300**	**11.510**
1985 Total	**.106**	**2.508**	**1.039**	**3.652**	**.024**	**NA**	**.024**	**3.676**	**2.351**	**5.522**	**11.550**
1986 Total	**.106**	**2.386**	**1.099**	**3.590**	**.027**	**NA**	**.027**	**3.617**	**2.439**	**5.628**	**11.684**
1987 Total	**.097**	**2.505**	**1.079**	**3.681**	**.029**	**NA**	**.029**	**3.710**	**2.539**	**5.829**	**12.078**
1988 Total	**.101**	**2.748**	**1.037**	**3.886**	**.032**	**NA**	**.032**	**3.918**	**2.675**	**6.047**	**12.640**
1989 Total	**.088**	**2.802**	**.966**	**3.855**	**.034**	**.003**	**.037**	**3.892**	**2.767**	**6.441**	**13.099**
1990 Total	**.093**	**2.701**	**.908**	**3.702**	**.037**	**.003**	**.040**	**3.742**	**2.860**	**6.566**	**13.168**
1991 Total	**.085**	**2.813**	**.861**	**3.758**	**.039**	**.003**	**.042**	**3.800**	**2.918**	**6.663**	**13.382**
1992 Total	**.085**	**2.890**	**.814**	**3.788**	**.042**	**.003**	**.045**	**3.834**	**2.900**	**6.531**	**13.264**
1993 Total	**.086**	**2.942**	**.753**	**3.780**	**.044**	**.003**	**.047**	**3.828**	**3.019**	**6.736**	**13.583**
1994 Total	**.083**	**2.979**	**.753**	**3.816**	**.045**	**.004**	**.049**	**3.865**	**3.116**	**6.919**	**13.899**
1995 Total	**.081**	**3.113**	**.715**	**3.908**	**.045**	**.005**	**.050**	**3.958**	**3.252**	**7.196**	**14.406**
1996 Total	**.083**	**3.244**	**.747**	**4.073**	**.049**	**.005**	**.054**	**4.127**	**3.344**	**7.405**	**14.876**
1997 Total	**.087**	**3.302**	**.709**	**4.098**	**.047**	**.006**	**.053**	**4.150**	**3.503**	**7.722**	**15.375**
1998 Total	**.066**	**3.098**	**.665**	**3.829**	**.047**	**.007**	**.054**	**3.883**	**3.678**	**7.993**	**15.553**
1999 Total	**.070**	**3.130**	**.672**	**3.871**	**.051**	**.007**	**.058**	**3.929**	**3.766**	**8.154**	**15.849**
2000 January	.008	.466	.083	.556	A .004	A .001	A .005	.561	.313	.675	1.550
February	.006	.434	.076	.516	A .004	A .001	A .005	.520	.302	.608	1.431
March	.004	.362	.067	.433	A .004	A .001	A .005	.438	.304	.657	1.399
April	.005	.265	.054	.325	A .004	A .001	A .005	.330	.294	.631	1.255
May	.003	.188	.052	.244	A .004	A .001	A .005	.249	.324	.729	1.301
June	.003	.154	.047	.204	A .004	A .001	A .005	.209	.352	.737	1.298
July	.004	.143	.046	.194	A .004	A .001	A .005	.199	.368	.777	1.343
August	.004	.157	.058	.219	A .004	A .001	A .005	.224	.383	.799	1.405
September	.003	.155	.054	.213	A .004	A .001	A .005	.217	.355	.677	1.249
October	.003	.189	.061	.252	A .004	A .001	A .005	.257	.328	.663	1.248
November	.006	.301	.065	.371	A .004	A .001	A .005	.376	.312	.664	1.353
December	.009	.487	.089	.586	A .004	A .001	A .005	.591	.321	.686	1.598
Total	**.059**	**3.301**	**.752**	**4.113**	E **.052**	E **.008**	E **.060**	**4.172**	**3.956**	**8.303**	**16.430**
2001 January	.007	.514	.085	R .607	A .004	A .001	A .005	R .612	.341	.645	1.598
February	.006	.436	.074	.516	A .004	A .001	A .005	.521	.308	.564	1.392
March	.005	.387	.074	.466	A .004	A .001	A .005	.471	.316	.644	R 1.432
April	.005	.265	.057	.327	A .004	A .001	A .005	.332	.306	.611	1.249
May	.003	.171	.053	.227	A .004	A .001	A .005	.232	.329	.710	1.272
June	.004	.141	.046	.191	A .004	A .001	A .005	.196	.360	.752	1.308
July	R .005	.136	.047	.188	A .004	A .001	A .005	.193	.384	.797	R 1.374
August	R .005	.142	.058	.205	A .004	A .001	A .005	.210	.398	.784	1.392
September	.003	.148	.049	.200	A .004	A .001	A .005	.205	.367	.667	1.239
October	.004	.193	.058	.255	A .004	A .001	A .005	.260	.337	.666	R 1.264
November	.005	.236	.064	.305	A .004	A .001	A .005	.310	.314	.630	1.254
December	.009	.357	.073	.439	A .004	A .001	A .005	.444	.321	.690	R 1.455
Total	R **.063**	**3.125**	**.739**	R **3.927**	E **.052**	E **.008**	E **.060**	R **3.987**	**4.081**	**8.155**	R **16.222**
2002 January	.007	.446	.077	R .530	A .004	A .001	A .005	R .535	.330	.662	R 1.527
February	.006	.405	.068	.480	A .004	A .001	A .005	R .485	.308	.597	1.389
March	R .006	.385	.067	R .459	A .004	A .001	A .005	R .464	.318	.643	1.424
April	.005	.274	.053	.332	A .004	A .001	A .005	.337	.322	.631	1.290
May	.004	.198	.052	.254	A .004	A .001	A .005	.259	.344	.708	1.312
June	R .004	R .157	.046	.207	A .004	A .001	A .005	.212	.373	.757	1.342
July	.005	R .141	.044	.191	A .004	A .001	A .005	.196	.407	.773	R 1.375
August	.004	.147	.054	.205	A .004	A .001	A .005	.210	.403	.733	1.347
September	.003	.152	.049	R .203	A .004	A .001	A .005	R .208	.376	.667	1.251
October	.004	R .210	.056	R .271	A .004	A .001	A .005	R .276	.356	.659	R 1.291
November	R .006	R .314	R .066	R .386	A .004	A .001	A .005	R .391	R .319	R .642	R 1.352
December	.008	F .367	.080	E .455	A .004	A .001	A .005	.460	.331	.728	1.519
Total	**.063**	E **3.198**	**.713**	E **3.974**	E **.052**	E **.008**	E **.060**	**4.033**	**4.188**	**8.200**	**16.421**

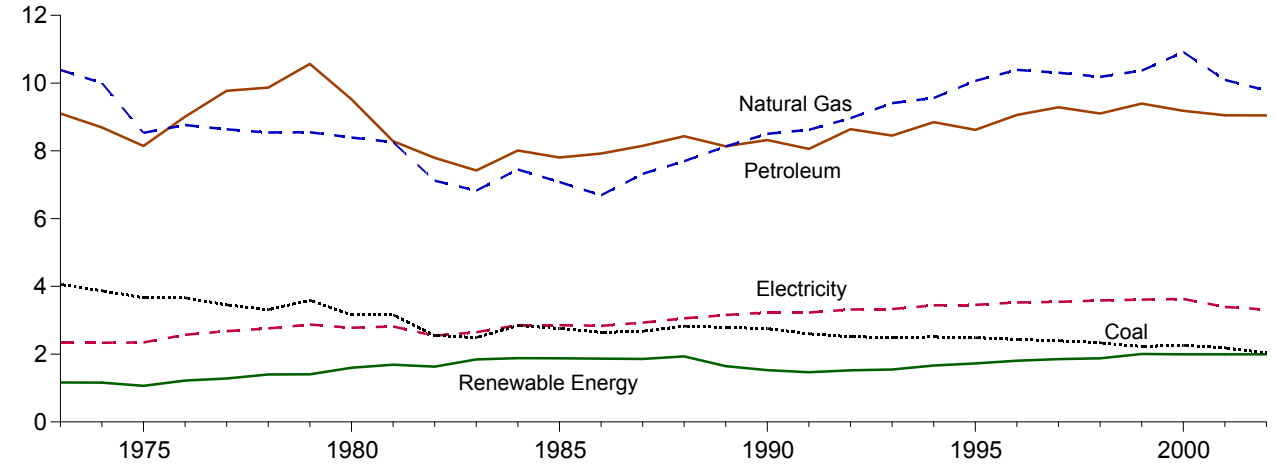
[a] Most nonutility use of fossil fuels to produce electricity is included in the end-use sectors. See Note 2 at end of section.
[b] Includes supplemental gaseous fuels.
[c] Wood only.
[d] Geothermal heat pump and direct use energy.
[e] Electric utility retail sales of electricity, including nonutility sales of electricity to utilities for distribution to end users; does not include nonutility facility use of onsite electricity generation or electricity sold by nonutilities directly to end users.
[f] See Note 12 at end of section.

R=Revised. NA=Not available. E=Estimate. F=Forecast. A=Apportioned data: monthly estimates for 2000 and 2001 are created by dividing the annual value by the number of days in the year and then multiplying by the number of days in the month; temporary 2002 monthly estimates are created by dividing the 2001 annual value by 365 and multiplying by the number of days in the month.

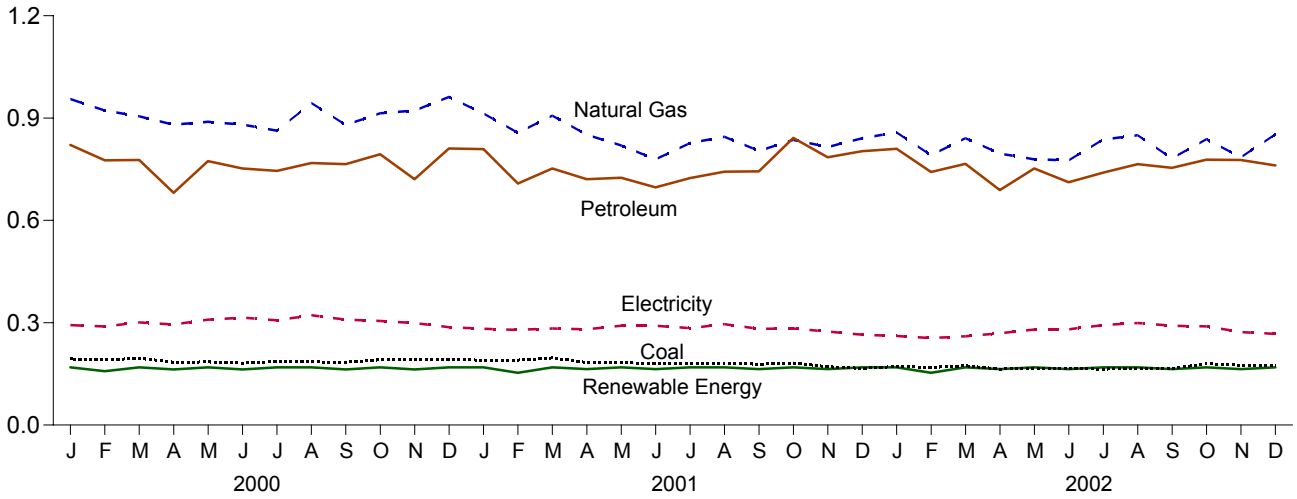
Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.
Web Page: http://www.eia.doe.gov/emeu/mer/consump.html.
Additional Notes and Sources: See end of section.

Figure 2.4 Industrial Sector Energy Consumption
(Quadrillion Btu)

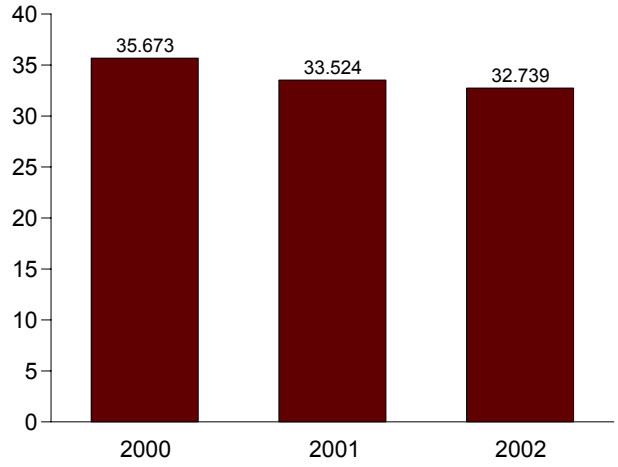
By Major Sources, 1973-2002



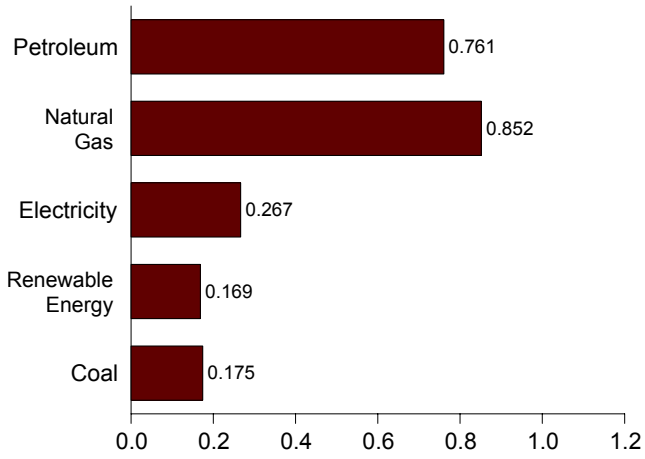
By Major Sources, Monthly



Total, January-December



By Major Sources, December 2002



Note: Because vertical scales differ, graphs should not be compared.
Web Page: http://www.eia.doe.gov/emeu/mer/consump.html.
Source: Table 2.4.

Table 2.4 Industrial Sector Energy Consumption

(Quadrillion Btu)

	Primary Consumption											
	Fossil Fuels[a]					Renewable Energy						
	Coal	Coal Coke Net Imports	Natural Gas[b]	Petroleum	Total	Wood[c] and Waste[d]	Geo-thermal[e]	Total	Total Primary	Electricity[f]	Electrical System Energy Losses[g]	Total
1973 Total	**4.057**	**-0.007**	**10.388**	**9.104**	**23.541**	**1.165**	**NA**	**1.165**	**24.706**	**2.341**	**5.625**	**32.672**
1974 Total	**3.870**	**.056**	**10.004**	**8.694**	**22.624**	**1.159**	**NA**	**1.159**	**23.783**	**2.337**	**5.715**	**31.835**
1975 Total	**3.667**	**.014**	**8.532**	**8.146**	**20.359**	**1.063**	**NA**	**1.063**	**21.422**	**2.346**	**5.676**	**29.445**
1976 Total	**3.661**	**(s)**	**8.762**	**9.010**	**21.432**	**1.220**	**NA**	**1.220**	**22.652**	**2.573**	**6.209**	**31.434**
1977 Total	**3.454**	**.015**	**8.635**	**9.774**	**21.879**	**1.281**	**NA**	**1.281**	**23.160**	**2.682**	**6.494**	**32.336**
1978 Total	**3.314**	**.125**	**8.539**	**9.867**	**21.845**	**1.400**	**NA**	**1.400**	**23.245**	**2.761**	**6.764**	**32.770**
1979 Total	**3.593**	**.063**	**8.549**	**10.568**	**22.773**	**1.405**	**NA**	**1.405**	**24.177**	**2.873**	**6.949**	**33.999**
1980 Total	**3.155**	**-.035**	**8.395**	**9.525**	**21.040**	**1.600**	**NA**	**1.600**	**22.640**	**2.781**	**6.768**	**32.189**
1981 Total	**3.157**	**-.016**	**8.257**	**8.285**	**19.682**	**1.689**	**NA**	**1.689**	**21.371**	**2.817**	**6.717**	**30.906**
1982 Total	**2.552**	**-.022**	**7.121**	**7.794**	**17.446**	**1.634**	**NA**	**1.634**	**19.079**	**2.542**	**6.135**	**27.756**
1983 Total	**2.490**	**-.016**	**6.826**	**7.420**	**16.720**	**1.845**	**NA**	**1.845**	**18.565**	**2.648**	**6.368**	**27.580**
1984 Total	**2.842**	**-.011**	**7.448**	**8.014**	**18.292**	**1.883**	**NA**	**1.883**	**20.175**	**2.859**	**6.691**	**29.724**
1985 Total	**2.760**	**-.013**	**7.080**	**7.805**	**17.632**	**1.875**	**NA**	**1.875**	**19.507**	**2.855**	**6.705**	**29.067**
1986 Total	**2.641**	**-.017**	**6.690**	**7.920**	**17.234**	**1.866**	**NA**	**1.866**	**19.100**	**2.834**	**6.540**	**28.474**
1987 Total	**2.673**	**.009**	**7.323**	**8.151**	**18.155**	**1.858**	**NA**	**1.858**	**20.013**	**2.928**	**6.723**	**29.664**
1988 Total	**2.828**	**.040**	**7.696**	**8.430**	**18.993**	**1.933**	**NA**	**1.933**	**20.926**	**3.059**	**6.915**	**30.899**
1989 Total	**2.787**	**.030**	**8.131**	**8.133**	**19.081**	**1.644**	**.002**	**1.646**	**20.727**	**3.158**	**7.353**	**31.238**
1990 Total	**2.756**	**.005**	**8.502**	**8.320**	**19.583**	**1.525**	**.002**	**1.527**	**21.111**	**3.226**	**7.406**	**31.743**
1991 Total	**2.601**	**.010**	**8.619**	**8.057**	**19.287**	**1.465**	**.002**	**1.467**	**20.754**	**3.230**	**7.375**	**31.359**
1992 Total	**2.515**	**.035**	**8.967**	**8.638**	**20.154**	**1.523**	**.002**	**1.525**	**21.679**	**3.319**	**7.473**	**32.472**
1993 Total	**2.496**	**.027**	**9.410**	**8.449**	**20.382**	**1.543**	**.002**	**1.546**	**21.928**	**3.334**	**7.440**	**32.702**
1994 Total	**2.510**	**.058**	**9.560**	**8.849**	**20.977**	**1.661**	**.003**	**1.663**	**22.640**	**3.439**	**7.638**	**33.717**
1995 Total	**2.488**	**.061**	**10.064**	**8.621**	**21.234**	**1.725**	**.003**	**1.727**	**22.962**	**3.455**	**7.646**	**34.063**
1996 Total	**2.434**	**.023**	**10.393**	**9.058**	**21.909**	**1.804**	**.003**	**1.807**	**23.716**	**3.527**	**7.810**	**35.053**
1997 Total	**2.395**	**.046**	**10.307**	**9.288**	**22.036**	**1.851**	**.003**	**1.854**	**23.890**	**3.542**	**7.809**	**35.241**
1998 Total	**2.335**	**.067**	**10.184**	**9.104**	**21.691**	**1.876**	**.003**	**1.879**	**23.570**	**3.587**	**7.794**	**34.951**
1999 Total	**2.227**	**.058**	**10.367**	**9.395**	**22.046**	**2.003**	**.004**	**2.007**	**24.053**	**3.611**	**7.817**	**35.481**
2000 January	.194	.004	.956	.821	1.974	A .168	A (s)	A .169	2.143	.293	.632	3.069
February	.191	.007	.922	.776	1.896	A .158	A (s)	A .158	2.054	.289	.580	2.923
March	.196	.006	.905	.777	1.883	A .168	A (s)	A .169	2.052	.301	.652	3.005
April	.184	.006	.881	.681	1.752	A .163	A (s)	A .163	1.915	.295	.634	2.844
May	.185	.008	.889	.774	1.856	A .168	A (s)	A .169	2.025	.309	.695	3.029
June	.182	.004	.881	.752	1.819	A .163	A (s)	A .163	1.982	.315	.659	2.956
July	.186	.006	.863	.745	1.800	A .168	A (s)	A .169	1.969	.307	.648	2.924
August	.185	.008	.944	.768	1.905	A .168	A (s)	A .169	2.074	.322	.672	3.067
September	.184	.007	.880	.765	1.836	A .163	A (s)	A .163	2.000	.309	.589	2.898
October	.191	.006	.914	.794	1.904	A .168	A (s)	A .169	2.073	.305	.616	2.994
November	.191	.004	.922	.721	1.838	A .163	A (s)	A .163	2.001	.299	.637	2.937
December	.191	(s)	.962	.811	1.964	A .168	A (s)	A .169	2.133	.287	.614	3.034
Total	**2.260**	**.065**	**10.918**	**9.184**	**22.428**	E **1.988**	E **.004**	E **1.993**	**24.420**	**3.631**	**7.621**	**35.673**
2001 January	R .190	.003	R .913	.809	R 1.915	A .169	A (s)	A .169	R 2.084	.282	.534	R 2.900
February	R .190	.002	R .857	.708	R 1.757	A .153	A (s)	A .153	R 1.910	.279	.511	R 2.701
March	R .197	.003	R .907	.752	R 1.858	A .169	A (s)	A .169	R 2.028	.283	.577	R 2.888
April	R .183	.005	R .851	.721	R 1.760	A .163	A (s)	A .164	R 1.924	.281	.562	R 2.767
May	R .183	.004	R .820	.725	R 1.731	A .169	A (s)	A .169	R 1.901	.291	.628	R 2.820
June	R .180	.003	R .779	.697	R 1.659	A .163	A (s)	A .164	R 1.823	.291	.607	R 2.720
July	R .182	(s)	R .827	.724	R 1.733	A .169	A (s)	A .169	R 1.902	.284	.589	R 2.776
August	R .182	.004	R .845	.743	R 1.774	A .169	A (s)	A .169	R 1.943	.296	.584	R 2.824
September	R .178	.001	R .804	.744	R 1.728	A .163	A (s)	A .164	R 1.891	.282	.513	R 2.686
October	.182	.004	R .836	.842	R 1.863	A .169	A (s)	A .169	R 2.032	.283	.560	R 2.875
November	R .171	.002	R .815	.785	R 1.772	A .163	A (s)	A .164	R 1.936	.274	.550	R 2.760
December	R .166	.001	R .841	.803	R 1.811	A .169	A (s)	A .169	R 1.980	.265	.571	R 2.816
Total	R **2.183**	**.032**	R **10.094**	**9.053**	R **21.362**	E **1.988**	E **.004**	E **1.993**	R **23.354**	**3.392**	**6.778**	R **33.524**
2002 January	R .172	-.001	.858	R .810	R 1.838	A .169	A (s)	A .169	R 2.007	.261	.524	R 2.792
February	R .169	.003	.791	R .742	R 1.705	A .153	A (s)	A .153	R 1.858	.255	.493	R 2.606
March	R .174	.008	.841	R .766	R 1.790	A .169	A (s)	A .169	R 1.959	.260	.527	R 2.746
April	R .164	.001	.796	R .689	R 1.649	A .163	A (s)	A .164	R 1.813	.269	.527	R 2.609
May	R .167	.005	.779	R .752	R 1.703	A .169	A (s)	A .169	R 1.872	.280	.577	R 2.729
June	R .165	.003	.776	R .712	R 1.655	A .163	A (s)	A .164	R 1.819	.281	.569	R 2.668
July	R .164	.009	.837	R .740	R 1.750	A .169	A (s)	A .169	R 1.919	.293	.557	R 2.769
August	R .166	.008	.850	R .765	R 1.789	A .169	A (s)	A .169	R 1.958	.299	.545	R 2.802
September	R .166	.009	.782	R .754	R 1.711	A .163	A (s)	A .164	R 1.875	.291	.516	R 2.682
October	R .180	.006	.838	R .778	R 1.802	A .169	A (s)	A .169	R 1.971	.289	.535	R 2.796
November	R .175	.008	R .785	R .777	R 1.745	A .163	A (s)	A .164	R 1.908	R .273	R .550	R 2.731
December	.175	.003	F .852	.761	E 1.791	A .169	A (s)	A .169	1.961	.267	.586	2.814
Total	**2.037**	**.062**	E **9.784**	**9.045**	E **20.928**	E **1.988**	E **.004**	E **1.993**	R **22.921**	**3.319**	**6.499**	**32.739**

[a] Most nonutility use of fossil fuels to produce electricity is included in the end-use sectors. See Note 2 at end of section.

[b] Includes supplemental gaseous fuels.

[c] Wood, wood waste, black liquor, red liquor, spent sulfite liquor, wood sludge, peat, railroad ties, and utility poles.

[d] Municipal solid waste, landfill gas, methane, digester gas, liquid acetonitrile waste, tall oil, waste alcohol, medical waste, paper pellets, sludge waste, solid byproducts, tires, agricultural byproducts, closed loop biomass, fish oil, and straw.

[e] Geothermal heat pump and direct use energy.

[f] Electric utility retail sales of electricity, including nonutility sales of electricity to utilities for distribution to end users; does not include nonutility facility use of onsite electricity generation or electricity sold by nonutilities directly to end users.

[g] See Note 12 at end of section.

R=Revised. NA=Not available. E=Estimate. F=Forecast. (s)=Less than 0.5 trillion Btu. A=Apportioned data: monthly estimates for 2000 and 2001 are created by dividing the annual value by the number of days in the year and then multiplying by the number of days in the month; temporary 2002 monthly estimates are created by dividing the 2001 annual value by 365 and multiplying by the number of days in the month.

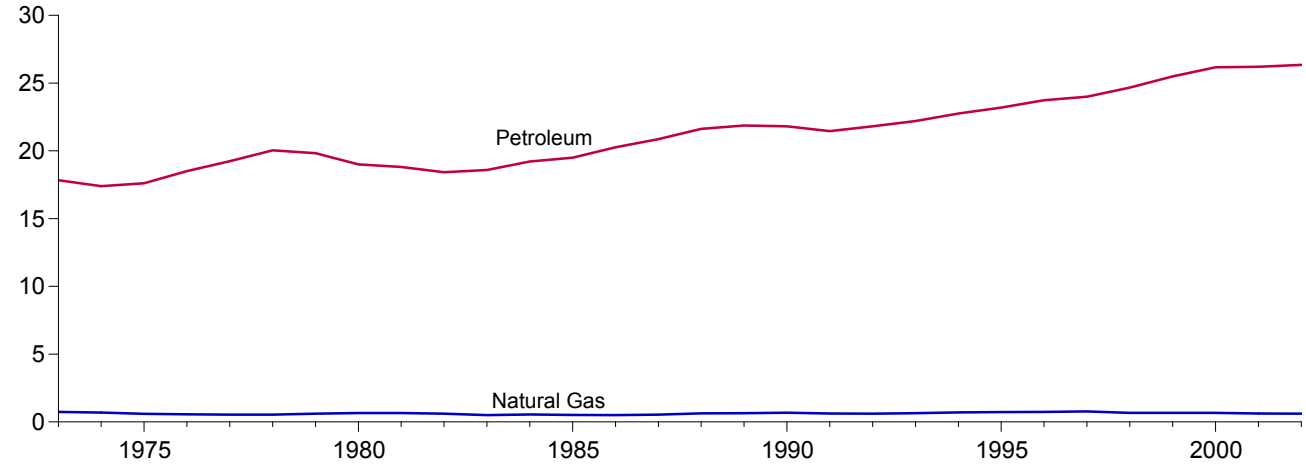
Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: http://www.eia.doe.gov/emeu/mer/consump.html.

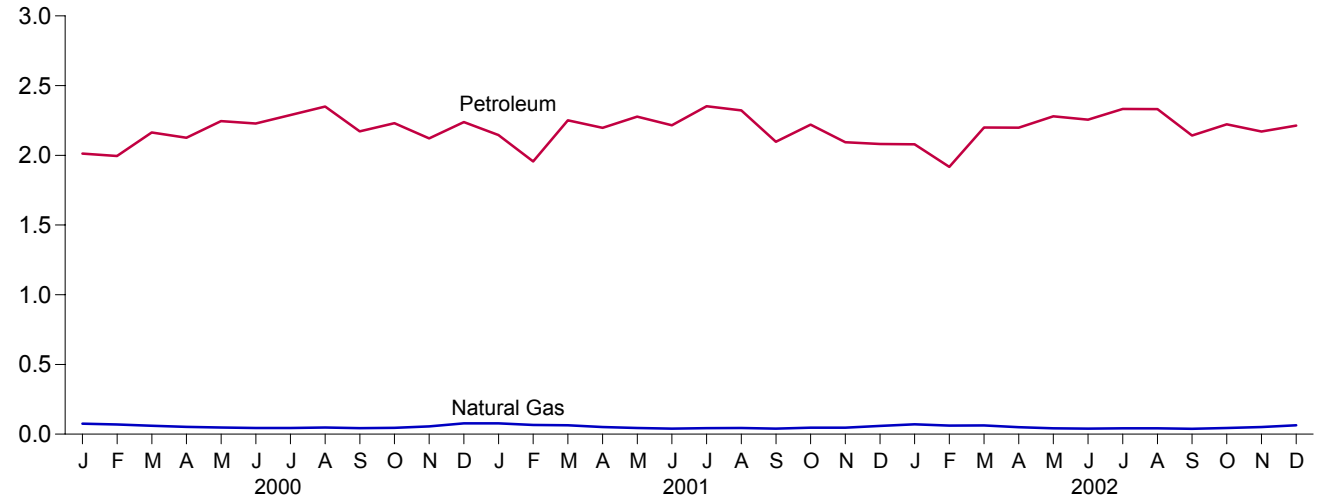
Additional Notes and Sources: See end of section.

Figure 2.5 Transportation Sector Energy Consumption
(Quadrillion Btu)

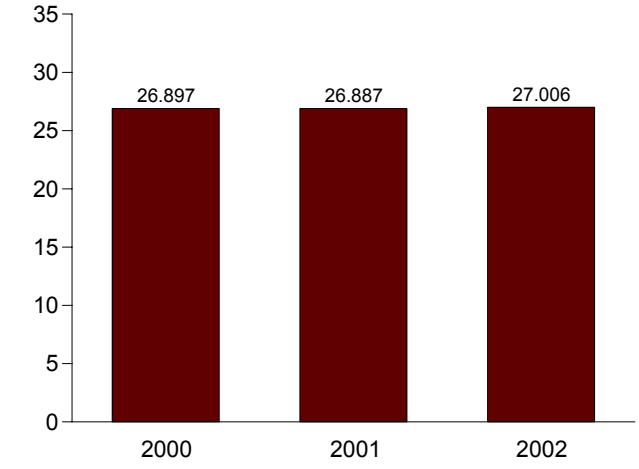
By Major Sources, 1973-2002



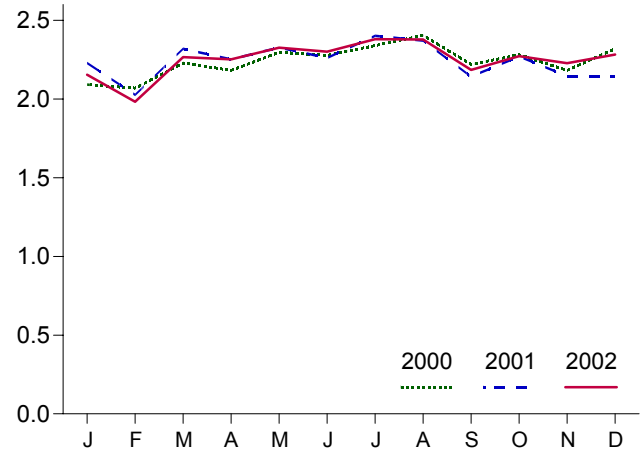
By Major Sources, Monthly



Total, January-December



Total, Monthly



Note: Because vertical scales differ, graphs should not be compared.
Web Page: http://www.eia.doe.gov/emeu/mer/consump.html.
Source: Table 2.5.

Table 2.5 Transportation Sector Energy Consumption

(Quadrillion Btu)

	Primary Consumption								
	Fossil Fuels[a]				Renewable Energy				
	Coal	Natural Gas[b]	Petroleum	Total	Alcohol Fuels[c]	Total Primary[c]	Electricity[d]	Electrical System Energy Losses[e]	Total[c]
1973 Total	**0.003**	**0.743**	**17.831**	**18.576**	**NA**	**18.576**	**0.011**	**0.025**	**18.612**
1974 Total	**.002**	**.685**	**17.399**	**18.086**	**NA**	**18.086**	**.010**	**.024**	**18.119**
1975 Total	**.001**	**.595**	**17.614**	**18.209**	**NA**	**18.209**	**.010**	**.025**	**18.244**
1976 Total	**(s)**	**.559**	**18.506**	**19.065**	**NA**	**19.065**	**.010**	**.024**	**19.099**
1977 Total	**(s)**	**.543**	**19.241**	**19.784**	**NA**	**19.784**	**.010**	**.025**	**19.820**
1978 Total	**(f)**	**.539**	**20.041**	**20.580**	**NA**	**20.580**	**.010**	**.025**	**20.615**
1979 Total	**(f)**	**.612**	**19.825**	**20.436**	**NA**	**20.436**	**.010**	**.024**	**20.471**
1980 Total	**(f)**	**.650**	**19.008**	**19.658**	**NA**	**19.658**	**.011**	**.027**	**19.696**
1981 Total	**(f)**	**.658**	**18.811**	**19.469**	**.007**	**19.469**	**.011**	**.026**	**19.506**
1982 Total	**(f)**	**.612**	**18.420**	**19.032**	**.019**	**19.032**	**.011**	**.027**	**19.070**
1983 Total	**(f)**	**.505**	**18.593**	**19.098**	**.035**	**19.098**	**.013**	**.030**	**19.141**
1984 Total	**(f)**	**.545**	**19.216**	**19.761**	**.043**	**19.761**	**.014**	**.033**	**19.809**
1985 Total	**(f)**	**.519**	**19.504**	**20.023**	**.052**	**20.023**	**.014**	**.033**	**20.071**
1986 Total	**(f)**	**.499**	**20.269**	**20.768**	**.060**	**20.768**	**.015**	**.035**	**20.818**
1987 Total	**(f)**	**.535**	**20.870**	**21.405**	**.069**	**21.405**	**.016**	**.036**	**21.456**
1988 Total	**(f)**	**.632**	**21.629**	**22.261**	**.070**	**22.261**	**.016**	**.036**	**22.313**
1989 Total	**(f)**	**.649**	**21.868**	**22.517**	**.071**	**22.517**	**.016**	**.038**	**22.571**
1990 Total	**(f)**	**.680**	**21.808**	**22.488**	**.063**	**22.488**	**.016**	**.037**	**22.541**
1991 Total	**(f)**	**.620**	**21.456**	**22.077**	**.073**	**22.077**	**.016**	**.037**	**22.130**
1992 Total	**(f)**	**.606**	**21.812**	**22.419**	**.083**	**22.419**	**.016**	**.036**	**22.471**
1993 Total	**(f)**	**.643**	**22.201**	**22.844**	**.097**	**22.844**	**.016**	**.036**	**22.896**
1994 Total	**(f)**	**.707**	**22.760**	**23.467**	**.109**	**23.467**	**.017**	**.038**	**23.522**
1995 Total	**(f)**	**.722**	**23.199**	**23.921**	**.117**	**23.921**	**.017**	**.038**	**23.975**
1996 Total	**(f)**	**.734**	**23.735**	**24.469**	**.084**	**24.469**	**.017**	**.037**	**24.523**
1997 Total	**(f)**	**.776**	**23.993**	**24.770**	**.106**	**24.770**	**.017**	**.037**	**24.823**
1998 Total	**(f)**	**.662**	**24.675**	**25.336**	**.117**	**25.336**	**.017**	**.037**	**25.390**
1999 Total	**(f)**	**.669**	**25.494**	**26.164**	**.122**	**26.164**	**.017**	**.038**	**26.219**
2000 January	(f)	.075	2.012	2.087	.012	2.087	.001	.003	2.091
February	(f)	.069	1.995	2.064	.010	2.064	.001	.003	2.069
March	(f)	.060	2.164	2.224	.012	2.224	.001	.003	2.229
April	(f)	.052	2.126	2.178	.010	2.178	.001	.003	2.182
May	(f)	.048	2.245	2.292	.012	2.292	.002	.003	2.297
June	(f)	.044	2.228	2.272	.009	2.272	.002	.003	2.277
July	(f)	.044	2.289	2.334	.011	2.334	.002	.003	2.339
August	(f)	.048	2.350	2.399	.012	2.399	.002	.004	2.404
September	(f)	.043	2.172	2.214	.011	2.214	.002	.003	2.219
October	(f)	.045	2.231	2.276	.013	2.276	.002	.003	2.281
November	(f)	.056	2.122	2.178	.013	2.178	.001	.003	2.182
December	(f)	.077	2.238	2.315	.014	2.315	.001	.003	2.319
Total	**(f)**	**.670**	**26.171**	**26.840**	**.139**	**26.840**	**.018**	**.039**	**26.897**
2001 January	(f)	R .077	2.146	R 2.223	.015	R 2.223	.002	.003	R 2.228
February	(f)	R .066	1.956	R 2.022	.012	R 2.022	.001	.003	R 2.026
March	(f)	R .064	2.251	R 2.315	.012	R 2.315	.002	.003	R 2.319
April	(f)	R .051	2.197	R 2.248	.011	R 2.248	.001	.003	R 2.252
May	(f)	.044	2.278	2.322	.011	2.322	.002	.003	2.327
June	(f)	.040	2.215	2.255	.012	2.255	.002	.004	2.261
July	(f)	R .043	2.352	R 2.395	.011	R 2.395	.002	.004	R 2.401
August	(f)	R .044	2.322	R 2.366	.010	R 2.366	.002	.004	R 2.371
September	(f)	R .040	2.097	R 2.136	.012	R 2.136	.002	.003	R 2.142
October	(f)	.046	2.220	2.265	.016	2.265	.002	.003	2.270
November	(f)	R .047	2.094	R 2.141	.013	R 2.141	.002	.003	R 2.145
December	(f)	R .059	2.081	R 2.140	.013	R 2.140	.001	.003	R 2.145
Total	**(f)**	**R .619**	**26.209**	**R 26.829**	**.147**	**R 26.829**	**.020**	**.039**	**R 26.887**
2002 January	(f)	R .071	R 2.079	R 2.150	.013	R 2.150	.001	.003	R 2.154
February	(f)	.061	R 1.917	R 1.978	.012	R 1.978	.001	.003	1.983
March	(f)	R .062	2.200	2.261	.012	2.261	.001	.003	2.266
April	(f)	R .050	2.198	R 2.247	.012	R 2.247	.001	.003	2.252
May	(f)	.042	2.280	2.322	.014	2.322	.001	.003	R 2.326
June	(f)	R .040	R 2.256	2.296	.012	2.296	.002	.003	2.301
July	(f)	.042	R 2.333	2.375	.015	2.375	.002	.003	2.380
August	(f)	.042	R 2.331	2.373	.014	2.373	.002	.003	2.378
September	(f)	.038	R 2.142	2.181	.015	2.181	.002	.003	R 2.185
October	(f)	.044	R 2.223	R 2.267	.017	R 2.267	.002	.003	2.272
November	(f)	R .051	R 2.171	R 2.222	.020	R 2.222	R .001	.003	R 2.227
December	(f)	F .064	2.213	E 2.277	.019	2.277	.002	.003	2.282
Total	**(f)**	**E .607**	**26.344**	**E 26.951**	**.174**	**R 26.951**	**.018**	**.036**	**27.006**

[a] Most nonutility use of fossil fuels to produce electricity is included in the end-use sectors. See Note 2 at end of section.

[b] Includes natural gas consumed in the operation of pipelines (primarily in compressors). For 1990-1999, annual values also include natural gas used by vehicles, whereas monthly values do not. See Table 4.4.

[c] Alcohol (ethanol blended into motor gasoline) is included in both "Petroleum" and "Alcohol Fuels," but is counted only once in both total primary consumption and total consumption.

[d] Electric utility retail sales of electricity, including nonutility sales of electricity to utilities for distribution to end users; does not include nonutility facility use of onsite electricity generation or electricity sold by nonutilities directly to end users.

[e] See Note 12 at end of Section.

[f] Since 1978, the small amounts of coal consumed for transportation are reported as industrial sector consumption.

R=Revised. NA=Not available. E=Estimate. F=Forecast. (s)=Less than 0.5 trillion Btu.

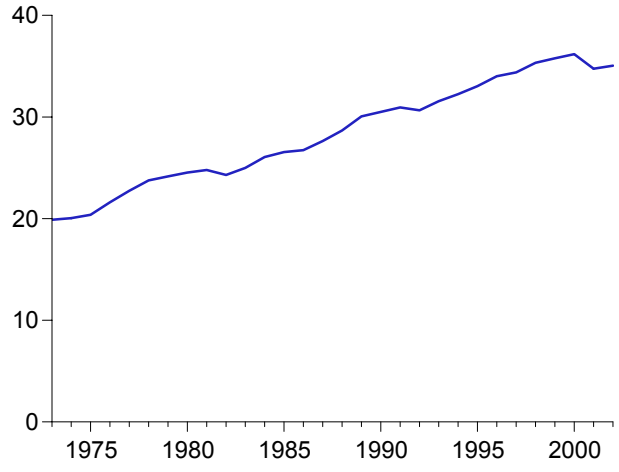
Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: http://www.eia.doe.gov/emeu/mer/consump.html.

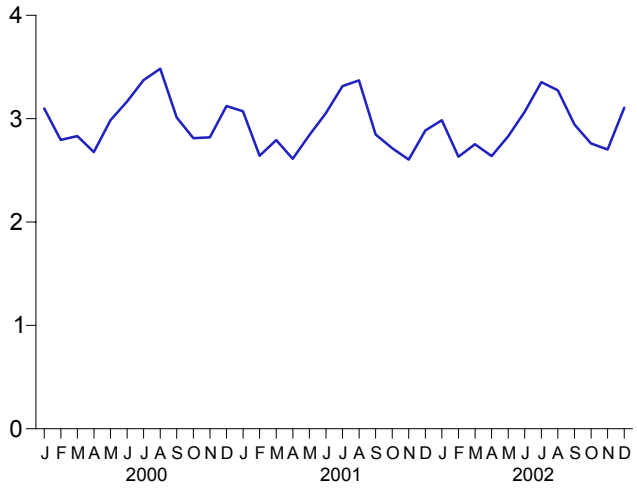
Additional Notes and Sources: See end of section.

Figure 2.6 Electric Power Sector Energy Consumption
(Quadrillion Btu)

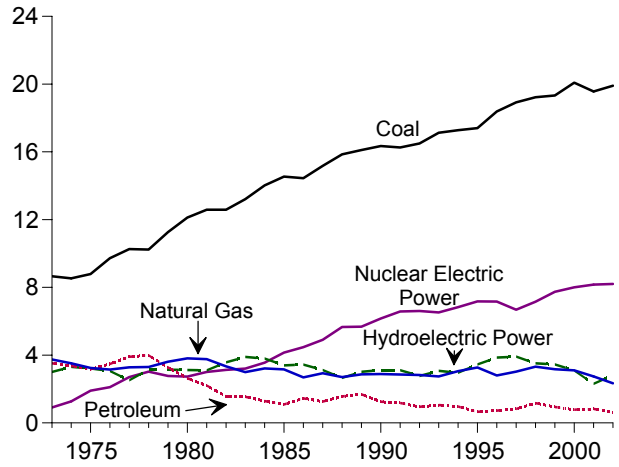
Total, 1973-2002



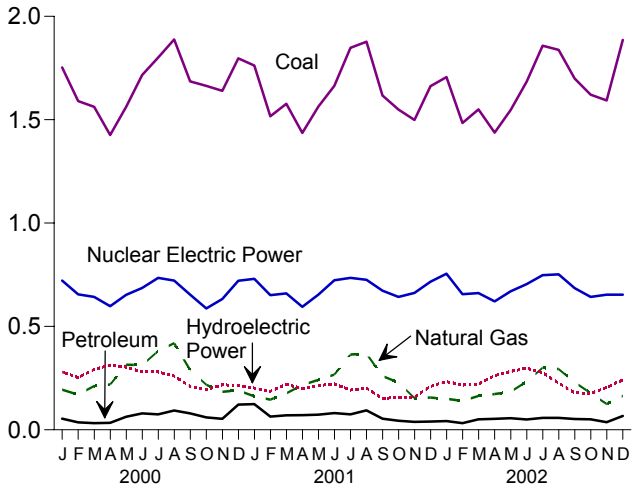
Total, Monthly



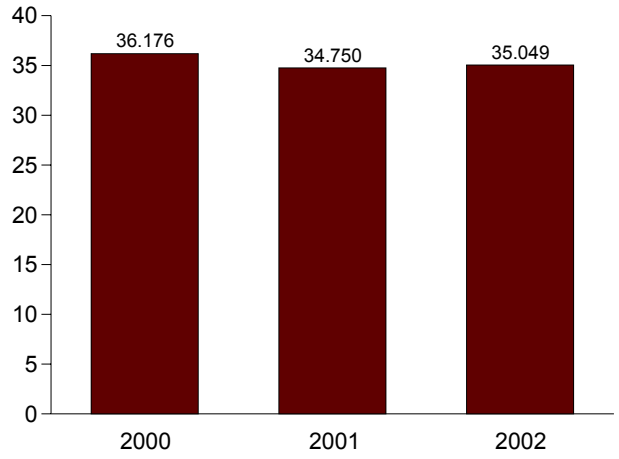
By Major Sources, 1973-2002



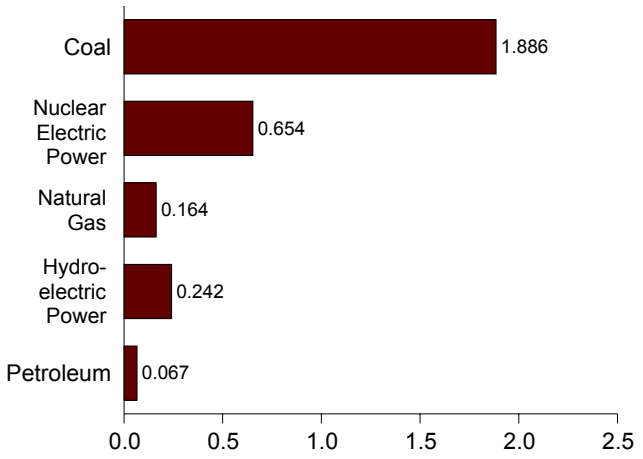
By Major Sources, Monthly



Total, January-December



By Major Sources, December 2002



Note: Because vertical scales differ, graphs should not be compared.
Web Page: http://www.eia.doe.gov/emeu/mer/consump.html.
Source: Table 2.6.

Table 2.6 Electric Power Sector Energy Consumption

(Quadrillion Btu)

	Primary Consumption											
	Fossil Fuels[a]					Nuclear Electric Power	Hydroelectric Pumped Storage[d]	Renewable Energy					Total Primary
	Coal	Natural Gas[b]	Petroleum	Other[c]	Total			Conventional Hydroelectric Power[e]	Wood[f] and Waste[g]	Geothermal[h]	Solar[i] and Wind[j]	Total	
1973 Total	**8.658**	**3.748**	**3.515**	**(k)**	**15.921**	**0.910**	**(k)**	**3.010**	**0.003**	**0.043**	**NA**	**3.056**	**19.887**
1974 Total	**8.534**	**3.519**	**3.365**	**(k)**	**15.418**	**1.272**	**(k)**	**3.309**	**.003**	**.053**	**NA**	**3.365**	**20.055**
1975 Total	**8.786**	**3.240**	**3.166**	**(k)**	**15.191**	**1.900**	**(k)**	**3.219**	**.002**	**.070**	**NA**	**3.291**	**20.382**
1976 Total	**9.720**	**3.152**	**3.477**	**(k)**	**16.349**	**2.111**	**(k)**	**3.066**	**.003**	**.078**	**NA**	**3.146**	**21.607**
1977 Total	**10.262**	**3.284**	**3.901**	**(k)**	**17.446**	**2.702**	**(k)**	**2.515**	**.005**	**.077**	**NA**	**2.597**	**22.746**
1978 Total	**10.238**	**3.297**	**3.987**	**(k)**	**17.522**	**3.024**	**(k)**	**3.141**	**.003**	**.064**	**NA**	**3.209**	**23.755**
1979 Total	**11.260**	**3.613**	**3.283**	**(k)**	**18.156**	**2.776**	**(k)**	**3.141**	**.005**	**.084**	**NA**	**3.230**	**24.162**
1980 Total	**12.123**	**3.810**	**2.634**	**(k)**	**18.567**	**2.739**	**(k)**	**3.118**	**.005**	**.110**	**NA**	**3.232**	**24.538**
1981 Total	**12.583**	**3.768**	**2.202**	**(k)**	**18.553**	**3.008**	**(k)**	**3.105**	**.004**	**.123**	**NA**	**3.232**	**24.793**
1982 Total	**12.582**	**3.342**	**1.568**	**(k)**	**17.491**	**3.131**	**(k)**	**3.572**	**.003**	**.105**	**NA**	**3.680**	**24.303**
1983 Total	**13.213**	**2.998**	**1.544**	**(k)**	**17.754**	**3.203**	**(k)**	**3.899**	**.004**	**.129**	**(s)**	**4.032**	**24.989**
1984 Total	**14.019**	**3.220**	**1.286**	**(k)**	**18.526**	**3.553**	**(k)**	**3.800**	**.009**	**.165**	**(s)**	**3.974**	**26.053**
1985 Total	**14.542**	**3.160**	**1.090**	**(k)**	**18.792**	**4.149**	**(k)**	**3.398**	**.014**	**.198**	**(s)**	**3.611**	**26.552**
1986 Total	**14.444**	**2.691**	**1.452**	**(k)**	**18.586**	**4.471**	**(k)**	**3.446**	**.012**	**.219**	**(s)**	**3.678**	**26.735**
1987 Total	**15.173**	**2.935**	**1.257**	**(k)**	**19.365**	**4.906**	**(k)**	**3.117**	**.015**	**.229**	**(s)**	**3.362**	**27.633**
1988 Total	**15.850**	**2.709**	**1.563**	**(k)**	**20.123**	**5.661**	**(k)**	**2.662**	**.017**	**.217**	**(s)**	**2.897**	**28.681**
1989 Total	**16.110**	**2.871**	**1.685**	**-.050**	**20.615**	**5.677**	**(k)**	**3.014**	**.393**	**.325**	**.030**	**3.763**	**30.055**
1990 Total	**16.342**	**2.882**	**1.250**	**-.080**	**20.395**	**6.162**	**-.036**	**3.146**	**.453**	**.344**	**.038**	**3.982**	**30.502**
1991 Total	**16.257**	**2.856**	**1.178**	**.059**	**20.349**	**6.580**	**-.047**	**3.159**	**.510**	**.352**	**.039**	**4.061**	**30.943**
1992 Total	**16.495**	**2.826**	**.951**	**.053**	**20.325**	**6.608**	**-.043**	**2.818**	**.552**	**.362**	**.037**	**3.769**	**30.660**
1993 Total	**17.124**	**2.741**	**1.052**	**.050**	**20.968**	**6.520**	**-.042**	**3.119**	**.570**	**.374**	**.040**	**4.104**	**31.550**
1994 Total	**17.284**	**3.053**	**.968**	**.140**	**21.445**	**6.838**	**-.035**	**2.993**	**.587**	**.378**	**.044**	**4.002**	**32.249**
1995 Total	**17.402**	**3.276**	**.658**	**.121**	**21.458**	**7.177**	**-.028**	**3.481**	**.584**	**.319**	**.041**	**4.426**	**33.033**
1996 Total	**18.385**	**2.798**	**.725**	**.109**	**22.016**	**7.168**	**-.032**	**3.892**	**.594**	**.331**	**.044**	**4.861**	**34.013**
1997 Total	**18.924**	**3.025**	**.822**	**.109**	**22.880**	**6.678**	**-.042**	**3.961**	**.568**	**.306**	**.042**	**4.877**	**34.393**
1998 Total	**19.227**	**3.320**	**1.166**	**.048**	**23.761**	**7.157**	**-.046**	**3.569**	**.549**	**.310**	**.040**	**4.468**	**35.340**
1999 Total	**19.333**	**3.173**	**.943**	**.092**	**23.540**	**7.736**	**-.063**	**3.512**	**E .669**	**.316**	**.055**	**4.553**	**35.766**
2000 January	E 1.753	.194	.054	.009	2.010	.722	-.005	E .285	E .056	.025	.004	.371	3.098
February	E 1.590	.170	.036	.011	1.806	.655	-.004	E .257	E .054	.023	.004	.338	2.795
March	E 1.562	.212	.032	.007	1.813	.643	-.006	E .298	E .056	.022	.005	.382	2.832
April	E 1.426	.219	.034	.006	1.684	.598	-.004	E .316	E .054	.023	.006	.399	2.677
May	E 1.562	.315	.063	.007	1.947	.653	-.005	E .308	E .054	.024	.006	.391	2.986
June	E 1.716	.313	.079	.006	2.114	.686	-.006	E .286	E .054	.024	.005	.370	3.165
July	E 1.801	.381	.075	.014	2.271	.735	-.003	E .283	E .058	.026	.005	.372	3.374
August	E 1.888	.419	.093	.014	2.414	.722	-.004	E .264	E .056	.026	.005	.352	3.484
September	E 1.685	.289	.079	.009	2.063	.654	-.007	E .217	E .054	.025	.005	.301	3.011
October	E 1.664	.218	.060	.003	1.945	.587	-.004	E .197	E .057	.026	.005	.285	2.812
November	E 1.640	.184	.053	.006	1.883	.633	-.004	E .221	E .055	.026	.005	.307	2.819
December	E 1.797	.191	.122	-.007	2.102	.721	-.005	E .219	E .055	.027	.004	.306	3.123
Total	**20.086**	**3.104**	**.779**	**.083**	**24.051**	**8.009**	**-.057**	**3.152**	**E .663**	**.298**	**.060**	**4.173**	**36.176**
2001 January	E 1.762	.161	.124	.004	2.050	.730	-.006	E .208	E .060	.027	E .003	.298	3.072
February	E 1.517	.146	.064	-.004	1.724	.651	-.005	E .191	E .052	.024	E .003	.271	2.641
March	E 1.577	.176	.070	.003	1.826	.660	-.006	E .225	E .058	.025	E .006	.313	2.794
April	E 1.436	.217	.071	.006	1.730	.595	-.006	E .205	E .058	.023	E .007	.294	2.612
May	E 1.563	.241	.073	.008	1.885	.654	-.008	E .222	E .059	.022	E .007	.310	2.841
June	E 1.664	.267	.081	.007	2.018	.723	-.009	E .231	E .059	.023	E .008	.321	3.053
July	E 1.848	.364	.075	.007	2.293	.735	-.010	E .201	E .063	.025	E .007	.297	3.315
August	E 1.877	.368	.094	.008	2.346	.726	-.010	E .211	E .064	.024	E .007	.307	3.370
September	E 1.617	.260	.054	-.001	1.931	.673	-.010	E .162	E .061	.024	E .006	.252	2.847
October	E 1.549	.229	.044	.002	1.823	.643	-.007	E .164	E .062	.024	E .005	.256	2.715
November	E 1.499	.154	.038	.002	1.694	.662	-.008	E .167	E .062	.024	E .004	.257	2.605
December	E 1.662	.156	.040	.009	1.867	.716	-.007	E .217	E .063	.025	E .005	.309	2.886
Total	**E 19.570**	**2.740**	**.828**	**.051**	**23.188**	**8.167**	**-.091**	**2.404**	**E .722**	**.292**	**.069**	**3.486**	**34.750**
2002 January	E 1.706	.150	.042	.008	1.906	.755	-.007	E .240	E .065	.025	E .002	.332	2.986
February	E 1.484	.140	.032	.006	1.663	.656	-.006	E .222	E .072	.022	E .006	.321	2.633
March	E 1.550	.164	.051	.004	1.769	.661	-.007	E .229	E .069	.024	E .007	.330	2.753
April	E 1.438	.173	.053	.004	1.667	.621	-.006	E .268	E .055	.022	E .011	.356	2.638
May	E 1.547	.184	.056	(s)	1.787	.670	-.005	E .287	E .058	.024	E .011	.380	2.831
June	E 1.684	.233	.050	.005	1.973	.705	-.009	E .307	E .059	.022	E .011	.398	3.067
July	E 1.858	.300	.058	.013	2.230	.748	-.010	E .286	E .066	.024	E .009	.386	3.353
August	E 1.838	.294	.058	.010	2.200	.752	-.009	E .235	E .063	.024	E .009	.331	3.274
September	E 1.699	.230	.052	.005	1.986	.685	-.008	E .187	E .060	.023	E .011	.281	2.944
October	E 1.621	.177	.051	.003	1.853	.643	-.007	E .183	E .059	.024	E .008	.273	2.761
November	RE 1.593	R .125	R .037	.001	RE 1.757	R .654	R -.006	RE .212	RE .056	.024	RE .006	RE .298	R 2.702
December	F 1.886	F .164	F .067	F (s)	F 2.117	F .654	F -.010	F .252	F .067	F .024	F .002	F .345	F 3.106
Total	**E 19.906**	**E 2.335**	**E .607**	**E .059**	**E 22.907**	**E 8.202**	**E -.090**	**E 2.908**	**E .749**	**E .282**	**E .091**	**E 4.030**	**35.049**

[a] Most nonutility use of fossil fuels to produce electricity is included in the end-use sectors. See Note 2 at end of section.
[b] Includes supplemental gaseous fuels.
[c] Electricity net imports from fossil fuels; may include some nuclear-generated electricity.
[d] Pumped storage facility production minus energy used for pumping.
[e] Conventional hydroelectric net generation. Through 1988, also includes all electricity net imports; from 1989, includes only the portion of electricity net imports derived from hydroelectric power.
[f] Wood, wood waste, black liquor, red liquor, spent sulfite liquor, wood sludge, peat, railroad ties, and utility poles.
[g] Municipal solid waste, landfill gas, methane, digester gas, liquid acetonitrile waste, tall oil, waste alcohol, medical waste, paper pellets, sludge waste, solid byproducts, tires, agricultural byproducts, closed loop biomass, fish oil, and straw. For 1999 forward, data also include electricity net generation from batteries, chemicals, hydrogen, pitch, sulfur, and purchased steam.
[h] Geothermal electricity net generation. From 1989, also includes electricity imports derived from geothermal energy.
[i] Solar thermal and photovoltaic electricity net generation.
[j] Wind electricity net generation.
[k] Included in conventional hydroelectric power.
R=Revised. NA=Not available. E=Estimate. (s)=Less than 0.5 trillion Btu.
Notes: • Totals may not equal sum of components due to independent rounding.
• Geographic coverage is the 50 States and the District of Columbia.
Web Page: http://www.eia.doe.gov/emeu/mer/consump.html.
Additional Notes and Sources: See end of section.

Energy Consumption by Sector

Most of the data in this section of the *Monthly Energy Review (MER)* are developed from a group of energy-related surveys, typically called "supply surveys," conducted by the Energy Information Administration (EIA). Supply surveys are directed to suppliers and marketers of specific energy sources. They measure the quantities of specific energy sources produced, or the quantities supplied to the market, or both. The data obtained from EIA's supply surveys are integrated to yield the summary consumption statistics published in this section (and in Section 1) of the *MER*.

Users of EIA's energy consumption statistics should be aware of a second group of energy-related surveys, typically called "consumption surveys." Consumption surveys gather information on the types of energy consumed by end users of energy, along with the characteristics of those end users that can be associated with energy use. For example, the Manufacturing Energy Consumption Survey belongs to the consumption survey group because it collects information directly from end users (the manufacturing establishments). There are important differences between the supply and consumption surveys that need to be taken into account in any analysis that uses both data sources. For information on those differences, see *Energy Consumption by End-Use Sector, A Comparison of Measures by Consumption and Supply Surveys*, DOE/EIA-0533, Energy Information Administration, Washington, DC, April 6, 1990.

Note 1. Energy Consumption:

Primary Consumption: Includes consumption in the five energy-use sectors (residential, commercial, industrial, transportation, and electric power) of fossil fuels (coal, natural gas, and petroleum), some secondary energy derived from fossil fuels (supplemental gaseous fuels, coal coke net imports, and electricity net imports from fossil fuels), nuclear electric power, pumped-storage hydroelectric power, and renewable energy. Renewable energy consumption includes: end-use consumption of wood, waste, alcohol fuels, geothermal heat pump and direct use energy, and solar thermal direct use and photovoltaic energy; electric utility and nonutility net electricity generation from conventional hydroelectric power, wood, waste, geothermal, solar, and wind; and net imports of electricity from hydroelectric power and geothermal energy.

Total Consumption: In addition to primary consumption in the four end-use sectors (residential, commercial, industrial, and transportation), includes: electric utility retail sales of electricity, including nonutility sales of electricity to utilities for distribution to end users; and electrical system energy losses (see Note 12).

Note 2. Energy-Use Sectors: Energy use is assigned to the five major economic sectors, as closely as possible, following the guidelines below.

Note: Most consumption of fossil fuels at nonutility power producers is included in the end-use sectors, mainly industrial. For further information on nonutility consumption of fossil fuels, see Note 4 ("Coal"), Note 6 ("Natural Gas"), and Note 7 ("Petroleum").

Residential Sector—An energy-consuming sector that consists of living quarters for private households. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a variety of other appliances. The residential sector excludes institutional living quarters.

Commercial Sector—An energy-consuming sector that consists of service-providing facilities and equipment of: businesses; Federal, State, and local governments; and other private and public organizations, such as religious, social, or fraternal groups. The commercial sector includes institutional living quarters. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a wide variety of other equipment.

Industrial Sector—An energy-consuming sector that consists of all facilities and equipment used for producing, processing, or assembling goods. The industrial sector encompasses the following types of activity: manufacturing; agriculture, forestry, and fisheries; mining; and construction. Overall energy use in this sector is largely for process heat and cooling and powering machinery, with lesser amounts used for facility heating, air conditioning, and lighting. Fossil fuels are also used as raw material inputs to manufactured products.

Transportation Sector—An energy-consuming sector that consists of all vehicles whose primary purpose is transporting people and/or goods from one physical location to another. Included are automobiles; trucks; buses; motorcycles; trains, subways, and other rail vehicles; aircraft; and ships, barges, and other waterborne vehicles. Vehicles whose primary purpose is not transportation (e.g., construction cranes and bulldozers, farming vehicles, and warehouse tractors and forklifts) are classified in the sector of their primary use.

Electric Power Sector—An energy-consuming sector that consists of all utility and nonutility facilities and equipment used to generate, transmit, and/or distribute electricity.

Although the energy-use allocations are made according to these aggregations as closely as possible, some data are collected by using different classifications. For example, electric utilities may classify commercial and industrial users by the quantity of electricity purchased rather than by the business activity of the purchaser. Natural gas used in agriculture, forestry, and fisheries was collected and reported in the commercial sector through 1995. Beginning with 1996 data, deliveries of natural gas for agriculture, forestry, and fisheries are reported in the industrial sector

instead. Another example is master-metered condominiums and apartments, and buildings with a combination of residential and commercial units. In many cases, the metering and billing practices cause residential energy usage of electricity, natural gas, or fuel oil to be included in the commercial sector. No adjustments for these discrepancies were made.

Note 3. Conversion Factors: See Appendix A.

Note 4. Coal: See Tables 6.2 and A5.

Note: Coal consumed by "Other Power Producers" (nonutility wholesale producers of electricity, and some nonutility cogeneration plants), is included in the electric power sector (see Table 6.2). Coal consumed by nonutilities not included in "Other Power Producers" is included in the end-use sectors, mainly industrial.

Note 5. Coal Coke Net Imports: Net imports means imports minus exports, and a minus sign indicates that exports are greater than imports.

Note: Coal coke net imports are included in the industrial sector.

Sources:
1973–1975: DOI, BOM, *Minerals Yearbook*, "Coke and Coal Chemicals" chapter.
1976–1980: EIA, *Energy Data Report*, "Coke and Coal Chemicals" annual.
1981: EIA, *Energy Data Report*, "Coke Plant Report," quarterly.
1982 forward: *Quarterly Coal Report*.

Note 6. Natural Gas: See Tables 4.4 and A4.

Note: Natural gas consumed by nonutility power producers is included in the end-use sectors, mainly industrial.

For Section 2 calculations, lease and plant fuel consumption are included in the industrial sector, and pipeline fuel use of natural gas is included in the transportation sector.

Residential and commercial monthly sales data for 1973-1979, which are used to estimate monthly consumption values from EIA annual consumption values, are from the American Gas Association, "Monthly Gas Utility Statistical Report."

Note 7. Petroleum: Petroleum consumption in this section of the *Monthly Energy Review* (*MER*) is the series called "petroleum product supplied" from Section 3.

Note: Petroleum consumed by nonutility power producers is included in the end-use sectors, mainly industrial.

The sources for petroleum product supplied by product are:
1973–1975: DOI, BOM, *Mineral Industry Surveys*, "Petroleum Statement, Annual."
1976–1980: EIA, *Energy Data Reports*, "Petroleum Statement, Annual."
1981–2001: EIA, *Petroleum Supply Annual*.
2002 forward: EIA, *Petroleum Supply Monthly*.

Energy-use allocation procedures by individual product are described below.

Aviation Gasoline—All aviation gasoline use is assigned to the transportation sector.

Asphalt—All asphalt use is assigned to the industrial sector.

Distillate Fuel—Distillate fuel use is assigned to the energy-use sectors as described below.

Distillate Fuel Used by Electric Utilities, All Time Periods—For 1973–1979, consumption of distillate fuel is assumed to be the amount of petroleum (minus small amounts of kerosene and kerosene-type jet fuel deliveries) consumed in gas turbine and internal combustion plants. For 1980 forward, consumption of distillate fuel is assumed to be the amount of light oil (minus small amounts of kerosene deliveries through 1982) consumed at electric utilities. Source: Table 7.7.

Distillate Fuel Used by Sectors Other Than Electric Utilities, Annually Through 1997—The aggregate nonutility use of distillate fuel is total distillate fuel supplied minus the electric utility consumption. The nonutility annual consumption totals are allocated to the individual nonutility sectors (residential, commercial, industrial, and transportation) in proportion to the share of "adjusted sales" of each end-use sector, as reported in EIA's *Fuel Oil and Kerosene Sales* report series (DOE/EIA-0535), which is based primarily on data collected by Form EIA-821, previously Form EIA-172. "Adjusted sales" are sales that have been adjusted at the PAD district level to equal EIA volume estimates of petroleum products supplied in the U.S. market. Following are notes on the individual sector groupings:

Since 1979, the residential sector adjusted sales total is directly from the *Sales* reports. Prior to 1979, each year's sales subtotal of the heating plus industrial category is split into residential, commercial, and industrial (including farm) in proportion to the 1979 shares.

Since 1979, the commercial sector adjusted sales total is directly from the *Sales* reports. Prior to 1979, each year's sales subtotal of the heating plus industrial category is split into residential, commercial, and industrial (including farm) in proportion to the 1979 shares.

Since 1979, the industrial sector adjusted sales total is the sum of the adjusted sales for industrial, farm, oil company, off-highway diesel, and all other uses. Prior to 1979, each year's sales subtotal of the heating plus industrial category

is split into residential, commercial, and industrial (including farm) in proportion to the 1979 shares, and this estimated industrial portion is added to oil company, off-highway diesel, and all other uses.

The transportation sector adjusted sales total is the sum of the adjusted sales for railroad, vessel bunkering, on-highway diesel, and military uses for all years.

Distillate Fuel Used by Sectors Other Than Electric Utilities, Monthly Through 1997—Residential and commercial monthly consumption is estimated by allocating the annual estimates, which are described above, into the months in proportion to each month's share of the year's sales of No. 2 heating oil. The years' sales totals are from the following sources: for 1973–1980, the Ethyl Corporation, *Monthly Report of Heating Oil Sales*; for 1981 and 1982, the American Petroleum Institute, *Monthly Report of Heating Oil Sales*; and for 1983–1997, EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale.

The transportation highway use portion is allocated into the months in proportion to each month's share of the year's total sales for highway use as reported by the Federal Highway Administration's Table MF-25, "Private and Commercial Highway Use of Special Fuels by Months." After 1993, the sales-for-highway-use data are no longer available as a monthly series; the 1993 data are used for allocating succeeding year's totals into months. The remaining transportation use of distillate fuel (i.e., for railroads, vessel bunkering, and military use) is evenly distributed over the months, adjusted for the number of days per month.

Industrial monthly estimates are made by subtracting the residential and commercial, transportation, and electric utility sector estimates from each month's total distillate fuel consumption.

Distillate Fuel Used by Sectors Other Than Electric Utilities, 1998 Forward—Each month's nonutility consumption subtotal is disaggregated into sectors in proportion to the shares each sector held of the nonutility subtotal in the same month in 1997.

Jet Fuel—Through 1982, small amounts of kerosene-type jet fuel were consumed by electric utilities. Kerosene-type jet fuel deliveries to electric utilities as reported on the Form FERC-423 (formerly Form FPC-423) were used as estimates of this consumption. All remaining jet fuel (kerosene-type and naphtha-type) is consumed by the transportation sector.

Kerosene—Kerosene use is allocated to the sectors in proportion to annual sales grouped into sectors from EIA's *Fuel Oil and Kerosene Sales* reports (based primarily on data collected by Form EIA-821, previously Form EIA-172).

Residential deliveries are taken directly from the *Sales* reports for 1979–1997. Sales for 1997 are used as estimates for succeeding periods. Prior to 1979, each year's sales category called "heating" is split into residential, commercial, and industrial in proportion to the 1979 shares.

Commercial sales are directly from the *Sales* reports for 1979–1997. Sales for 1997 are used as estimates for succeeding periods. Prior to 1979, each year's sales category called "heating" is split into residential, commercial, and industrial in proportion to the 1979 shares.

Industrial sales are directly from the *Sales* reports for 1979–1997. Sales for 1997 are used as estimates for succeeding periods. Prior to 1979, each year's sales category called "heating" is split into residential, commercial and industrial in proportion to the 1979 shares, and this estimated industrial (including farm) portion is added to all other uses.

Liquefied Petroleum Gases (LPG)—The annual shares of LPG's total consumption that are estimated to be used by each sector are applied to each month's total LPG consumption to create monthly sector consumption estimates. The annual sector shares are calculated as described below.

Sales of LPG to the residential and commercial sector are converted from thousand gallons per year to thousand barrels per year and are assumed to be the annual consumption of LPG by the sector.

The quantity of LPG sold each year for consumption in internal combustion engines is allocated between the transportation and industrial sectors on the basis of data for special fuels used on highways published by the U.S. Department of Transportation, Federal Highway Administration, in *Highway Statistics*. The allocations of LPG sold for internal combustion engine use to the transportation sector range from a low of 28 percent (in 1997) to a high of 73 percent (in 1994).

LPG consumed annually by the industrial sector is estimated as the difference between LPG total supplied and the estimated consumption of LPG by the sum of the residential and commercial sector and the transportation sector. The industrial sector includes LPG used by chemical plants as raw materials or solvents and used in the production of synthetic rubber; refinery fuel use; use as synthetic natural gas feedstock and use in secondary recovery projects; all farm use; LPG sold to gas utility companies for distribution through the mains; and a portion of the use of LPG as an internal combustion engine fuel.

Sources of the annual sales data for creating annual energy shares are:

1973–1982: EIA's "Sales of Liquefied Petroleum Gases and Ethane" reports, based primarily on data collected by Form EIA-174.

1983: End-use consumption estimates for 1983 are based on 1982 end-use consumption because the collection of data under Form EIA-174 was discontinued after data year 1982.
1984–forward: American Petroleum Institute (API), "Sales of Natural Gas Liquids and Liquefied Refinery Gases," which is based on an LPG sales survey jointly sponsored by API, the Gas Processors Association, and the National Liquefied Petroleum Gas Association. EIA adjusts the data to remove quantities of pentanes plus and to estimate withheld values.

Lubricants—The consumption of lubricants is allocated to the industrial and transportation sectors for all months according to proportions developed from annual sales of lubricants to the two sectors from U.S. Department of Commerce, Bureau of the Census, *Current Industrial Reports*, "Sales of Lubricating and Industrial Oils and Greases." The 1973 shares are applied to 1973 and 1974; the 1975 shares are applied to 1975 and 1976; and the 1977 shares are applied to 1977 forward.

Motor Gasoline—The total monthly consumption of motor gasoline is allocated to the sectors in proportion to aggregations of annual sales categories created on the basis of the U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Tables MF-21, MF-24, and MF-25, as follows:

Commercial sales are the sum of sales for public nonhighway use and miscellaneous and unclassified uses.

Industrial sales are the sum of sales for agriculture, construction, and industrial and commercial use as classified in the *Highway Statistics*.

Transportation sales are the sum of sales for highway use (minus the sales of special fuels, which are primarily diesel fuel and are accounted for in the transportation sector of distillate fuel) and sales for marine use.

Petroleum Coke—A portion of petroleum coke is consumed by electric utilities, as reported on Form EIA-759, "Monthly Power Plant Report" (formerly Form FPC-4). The remaining petroleum coke is assigned to the industrial sector.

Residual Fuel—Residual fuel use is assigned to the sectors as described below.

Residual Fuel Used by Electric Utilities, All Time Periods—For 1973–1979, consumption of residual fuel is assumed to be the amount of petroleum consumed in steam-electric power plants. For 1980 forward, consumption of residual fuel is assumed to be the amount of heavy oil consumed at electric utilities. Source: Table 7.7.

Residual Fuel Used by Sectors Other Than Electric Utilities, Annually Through 1997—The aggregate nonutility use of residual fuel is total residual fuel consumption minus the electric utility consumption. The nonutility annual totals are allocated into the individual nonutility sectors in proportion to the amount of residual fuel sold to end users, grouped into sectors from EIA's *Fuel Oil and Kerosene Sales* reports (based primarily on data collected by Form EIA-821, previously Form EIA-172), as follows:

Since 1979, commercial sales data are directly from the *Sales* reports. Prior to 1979, each year's sales subtotal of the heating plus industrial category is split into commercial and industrial in proportion to the 1979 shares.

Since 1979, industrial sales data are the sum of sales for industrial, oil company, and all other uses. Prior to 1979, each year's sales subtotal of the heating plus industrial category is split into commercial and industrial in proportion to the 1979 shares, and this estimated industrial portion is added to oil company and all other uses.

Transportation sales are the sum of sales for railroad, vessel bunkering, and military uses for all years.

Residual Fuel Used by Sectors Other Than Electric Utilities, Monthly Through 1997—Commercial monthly consumption is estimated by allocating the annual estimates, which are described above, into the months in proportion to each month's share of the year's sales of No. 2 heating oil. The years' sales totals are from the following sources: for 1973–1980, the Ethyl Corporation, *Monthly Report of Heating Oil Sales*; for 1981 and 1982, the American Petroleum Institute, *Monthly Report of Heating Oil Sales*; and for 1983–1996, EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale.

Transportation monthly estimates are made by evenly distributing the annual sector estimate over the months, adjusting for the number of days per month.

Industrial monthly estimates are made by subtracting the commercial, transportation, and electric utility sector estimates from each month's total residual fuel supplied.

Residual Fuel Used by Sectors Other Than Electric Utilities, 1998 Forward—Each month's nonutility consumption subtotal is disaggregated into the sectors in proportion to the shares each sector held of the nonutility subtotal in the same month in 1997.

Road Oil—Road oil use is assigned to the industrial sector.

All Other Petroleum Products—Consumption of all remaining petroleum products is assigned to the industrial sector.

Note 8. Nuclear Electric Power—See Tables 8.1 and A6.

Note: Nuclear electric power is included in the electric power sector.

Note 9. Hydroelectric Pumped Storage—See Tables 7.2 and A6.

Note: Pumped-storage hydroelectric power is included in the electric power sector.

Note 10. Renewable Energy—See Tables 10.2, 10.3a, and 10.3b.

Note: End-use consumption of wood, waste, alcohol fuels, geothermal heat pump and direct use energy, and solar thermal direct use and photovoltaic energy is included in the end-use sectors. Included in the electric power sector are: electric utility and nonutility net electricity generation from conventional hydroelectric power, wood, waste, geothermal, solar, and wind; and net imports of electricity from hydroelectric power and geothermal energy.

Note 11. Electricity: End-use consumption of electricity is based on data from Table 7.5 for electric utility retail sales of electricity (which include nonutility sales of electricity to utilities for distribution to end users, but do not include nonutility facility use of onsite electricity generation or electricity sold by nonutilities directly to end users). "Other," which is primarily for use in government buildings, is added to the commercial sector, except for approximately 5 percent used by railroads and railways and attributed to the transportation sector. Kilowatthours are converted to Btu at the rate of 3,412 Btu per kilowatthour.

Note 12. Electrical System Energy Losses: Electrical system energy losses are calculated as the difference between total primary consumption by the electric power sector—see Table 2.6—and the total energy content of electric utility retail sales of electricity (which include nonutility sales of electricity to utilities for distribution to end users, but do not include nonutility facility use of onsite electricity generation or electricity sold by nonutilities directly to end users)—see Tables 7.5 and A6. Most of these losses occur at steam-electric power plants (conventional and nuclear) in the conversion of heat energy into mechanical energy to turn electric generators. The loss is a thermodynamically necessary feature of the steam-electric cycle. Part of the energy input-to-output losses is a result of imputing fossil energy equivalent inputs for hydroelectric and other energy sources, since there is no generally accepted practice for measuring those thermal conversion rates. In addition to conversion losses, other losses include power plant use of electricity, transmission and distribution of electricity from power plants to end-use consumers (also called "line losses"), and unaccounted for electricity. Total losses are allocated to the end-use sectors in proportion to each sector's share of total electricity sales. Overall, approximately 67 percent of total energy input is lost in conversion; of electricity generated, approximately 5 percent is lost in plant use and 9 percent is lost in transmission and distribution. Calculated electrical system energy losses may be less than actual losses, because primary consumption does not include the energy equivalent of utility purchases of electricity from non-electric utilities and from Canada and Mexico, although they are included in electricity sales.